Flowering Plants of Great Britain

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THE

FLOWERING PLANTS,

GRASSES, SEDGES, AND FERNS

OF

GREAT BRITAIN,

AND THEIR ALLIES

THE CLUB MOSSES, PEPPERWORTS, AND HORSETAILS.

By ANNE PRATT,

AUTHOR OF "OUR NATIVE SONGSTERS," "WILD FLOWERS," ETC.

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LIST OF PLANTS IN VOL. IV.

255 SPECIES ILLUSTRATED.

		Plate	Fig.	Page
Ajuga reptans	Common Bugle	161	1	176
pyramidalis	Pyramidal Bugle	161	2	176
alpina	Alpine Bugle	161	3	177
Chamæpitys	Ground Pine or yellow Bugle	161	4	177
Amaranthus Blitum	Wild Amaranth	175	1	265
Anagallis arvensis	Scarlet Pimpernel	170	5	238
tenella	Bog Pimpernel	170	6	244
Anchusa officinalis	Common Alkanet	145	1	51
sempervirens	Evergreen Alkanet	145	2	52
Antirrhinum majus	Great Snapdragon	155	2	124
Orontium	Lesser Snapdragon	155	3	125
Armeria maritima	Common Thrift	171	3	248
plantaginea	Plantain-leaved Thrift	171	4	250
Aristolochia Clematitis	Common Birthwort	188	4	324
Asarum Europæum	Asarabacca	189	1	326
Asperugo procumbens	German Madwort	146	2	60
Atriplex portulacoides	Shrubby Orache	178	1	277
pedunculata	Stalked Sea Orache	178	2	278
laciniata	Frosted Sea Orache	178	3	279
rosea	Spreading-fruited Orache	178	4	279
patula	Spreading Halberd-leaved Orache	179	1	280
deltoidea	Triangular-leaved Orache	179	2	280
angustifolia	Spreading narrow-leaved Orache	179	3	281
littoralis	Grass-leaved Sea Orache	179	4	282
Atropa Belladonna	Common Dwale or Deadly Nightshade	147	5	72
Ballota nigra	Black Horehound	162	1	178
Bartsia alpina	Alpine Bartsia	152	1	103
viscosa	Yellow viscid Bartsia	152	2	103
Odontites	Red Bartsia	152	3	104
Beta vulgaris	Common Beet	175	2	268
Betonica officinalis	Wood Betony	164	1	188
Borago officinalis	Common Borago	146	1	57
Calamintha Acinos	Common Basil-Thyme	165	4	200
Nepeta	Lesser Calamint	165	5	201
officinalis	Common Calamint	165	6	201

		Plate	Fig.	Page
Calamintha sylvatica . .	Wood Calamint	165	7	202
vulgare	Common wild Basil	165	8	202
Calystegia sepium . . .	Great Hooded Bindweed	140	2	19
Soldanella . . .	Seaside Calystegia	140	3	21
Centuneulus minimus . .	Small Chaffweed	171	1	245
Chenopodium olidum . .	Stinking Goosefoot	175	3	270
polyspermum . .	Many-seeded Goosefoot	175	4	272
urbicum	Upright Goosefoot	176	1	273
murale	Nettle-leaved Goosefoot	176	2	273
hybridum . . .	Maple-leaved Goosefoot	176	3	274
album	White Goosefoot	176	4	274
ficifolium . . .	Fig-leaved Goosefoot	177	1	275
glaucum	Oak-leaved Goosefoot	177	2	275
rubrum	Red Goosefoot	177	3	275
Bonus Henricus .	Mercury Goosefoot	177	4	276
Chlora perfoliata . . .	Perfoliate Yellow-wort	139	1	10
Cicendia filiformis . . .	Least Gentianella	137	1	7
Convolvulus arvensis . .	Small Bindweed	140	1	17
Cuscuta Europæa . . .	Greater Dodder	141	1	22
Epilinum . . .	Flax Dodder	141	2	26
Epithymum . . .	Lesser Dodder	141	3	28
Trifolii	Clover Dodder	141	4	30
Cyclamen hederæfolium .	Sowbread	169	1	233
Cynoglossum officinale .	Common Hound's-tongue	146	3	60
sylvaticum . . .	Green-leaved Hound's-tongue . .	146	4	62
Daphne Mezereum . .	Common Mezereon	188	1	318
Laureola	Common Spurge Laurel	188	2	321
Datura Stramonium . .	Thorn-apple	147	1	64
Digitalis purpurea . . .	Purple Fox-glove	155	1	119
Echium vulgare	Common Viper's Bugloss	142	1	33
violaceum . . .	Purple-flowered Bugloss	142	2	36
Empetrum nigrum . . .	Black Crowberry	189	2	327
Euphrasia officinalis . .	Common Eyebright	152	4	105
Erythræa Centaurium . .	Common Centaury	137	2	8
pulchella . . .	Dwarf-branched Centaury	137	3	9
latifolia	Broad-leaved tufted Centaury . . .	137	4	10
linarifolia . . .	Dwarf-tufted Centaury	137	5	10
Galeobdolon luteum . .	Yellow Weasel-snout	163	1	183
Galeopsis Ladanum . .	Red Hemp-nettle	162	3	180
ochroleuca . . .	Downy Hemp-nettle	162	4	181
Tetrahit	Common Hemp-nettle	162	5	181
versicolor . . .	Large-flowered Hemp-nettle . . .	162	6	182
Gentiana Pneumonanthe .	Marsh Gentian	138	1	2
verna	Spring Gentian	138	2	4
nivalis	Small alpine Gentian	138	3	5
Amarella . . .	Small-flowered Gentian	138	4	6

		Plate	Fig.	Page
Gentiana campestris . .	Field Gentian	138	5	6
Glaux maritima . . .	Sea Milkwort	169	2	234
Hottonia palustris . . .	Water Violet	168	1	219
Hyoscyamus niger . . .	Common Henbane	147	2	68
Lamium album	White Dead-nettle	163	2	184
purpureum . . .	Red Dead-nettle	163	3	186
incisum	Cut-leaved Dead-nettle	163	4	187
intermedium . .	Intermediate Dead-nettle	163	5	187
amplexicaule . .	Henbit Dead-nettle	163	6	188
Lathræa squamaria . .	Greater Toothwort	149	6	83
Leonurus Cardiaca . .	Motherwort	162	2	179
Limosella aquatica . . .	Common Mudwort	157	1	133
Linaria Cymbalaria . .	Ivy-leaved Toad-flax	156	1	125
spuria	Round-leaved Toad-flax	156	2	129
Elatine	Sharp-pointed Fluellin	156	3	130
repens	Pale-blue Toad-flax	156	4	130
vulgaris	Yellow Toad-flax	156	5	131
Pelisseriana . .	Upright purple Toad-flax	156	6	132
supina	Diffuse Toad-flax.			132
minor	Least Toad-flax	156	7	133
Lithospermum officinale .	Common Gromwell	143	1	39
arvense	Corn Gromwell	143	2	40
purpuro-cæruleum	Creeping or purple Gromwell . . .	143	3	40
Littorella lacustris . . .	Common Shore-weed	174	3	263
Lycopsis arvensis . . .	Small Bugloss	145	3	53
Lycopus Europæus . . .	Common Gypsy-wort	158	1	145
Lysimachia vulgaris . .	Great yellow Loosestrife	170	1	236
thyrsiflora . . .	Tufted Loosestrife	170	2	237
nemorum . . .	Yellow Pimpernel	170	3	237
Nummularia . .	Creeping Loosestrife	170	4	238
Marrubium vulgare . .	Common white Horehound . . .	165	3	199
Melampyrum cristatum .	Crested Cow-wheat	153	1	111
arvense	Purple Cow-wheat	153	2	111
pratense	Common yellow Cow-wheat . . .	153	3	112
sylvaticum . . .	Lesser-flowered yellow Cow-wheat .	153	4	113
Melittis Melissophyllum .	Bastard Balm	166	1	203
Mentha sylvestris . . .	Horse-Mint	158	4	152
rotundifolia . .	Round-leaved Mint	158	5	152
viridis	Spear-Mint	158	6	153
piperita	Pepper-Mint	159	1	160
aquatica	Water capitate Mint	159	2	161
sativa	Marsh whorled Mint	159	3	162
arvensis	Corn Mint	159	4	163
pratensis. . . .	Narrow-leaved Mint	159	5	163
Pulegium . . .	Penny-royal	159	6	164
Menyanthes trifoliata . .	Buckbean	139	2	12
Mertensia maritima . .	Sea-side smooth Gromwell	143	4	41

		Plate	Fig.	Page
Myosotis palustris	Forget me-not	144	1	42
repens	Creeping Water Scorpion-grass	144	2	47
cæspitosa	Tufted Water Scorpion-grass	144	3	48
alpestris	Rock Scorpion-grass	144	4	48
sylvatica	Upright Wood Scorpion-grass	144	5	48
arvensis	Field Scorpion-grass	144	6	49
collina	Early Field Scorpion-grass	144	7	49
versicolor	Yellow and Blue Scorpion-grass	144	8	50
Nepeta Cataria	Catmint	165	1	193
Glechoma	Ground-Ivy	165	2	195
Origanum vulgare	Common Marjoram	160	2	170
Orobanche major	Greater Broom-rape	148	1	75
caryophyllacea	Clove-scented Broom-rape	148	2	77
rubra	Red Broom-rape	148	3	78
elatior	Tall Broom-rape	148	4	79
Picridis	Picris Broom-rape	149	1	79
minor	Lesser Broom-rape	149	2	80
Hederæ	Ivy Broom-rape	149	3	80
arenaria	Sand Broom-rape			81
cærulea	Purple Broom-rape	149	4	81
ramosa	Branched Broom-rape	149	5	82
Oxyria reniformis	Kidney-shaped Mountain Sorrel	187	3	317
Pedicularis palustris	Marsh Lousewort	153	5	114
sylvatica	Pasture Lousewort	153	6	115
Pinguicula vulgaris	Common Butterwort	167	2	212
grandiflora	Large-flowered Butterwort	167	3	213
alpina	Alpine Butterwort	167	4	214
Lusitanica	Pale Butterwort	167	5	214
Plantago major	Greater Plantain	173	1	255
media	Hoary Plantain	173	2	260
lanceolata	Ribwort Plantain	173	3	261
maritima	Sea-side Plantain	174	1	262
Coronopus	Buck's-horn Plantain	174	2	262
Polemonium cæruleum	Blue Jacob's-ladder	139	4	15
Polygonum Bistorta	Common Bistort	181	1	292
viviparum	Viviparous alpine Bistort	181	2	294
aviculare	Common Knot-grass	181	3	294
Roberti	Robert's Knot-grass	181	4	297
maritimum	Sea-side Knot-grass	181	5	297
Fagopyrum	Common Buck-wheat	182	1	297
Convolvulus	Climbing Buckwheat	182	2	300
dumetorum	Copse Buckwheat	182	3	301
amphibium	Amphibious Persicaria	182	4	301
Persicaria	Spotted Persicaria	182	5	303
laxum	Slender-headed Persicaria	183	1	303
lapathifolium	Pale-flowered Persicaria	183	2	304

		Plate	Fig.	Page
Polygonum mite	Lax-flowered Persicaria	183	3	304
minus	Small Creeping Persicaria	183	4	304
Hydropiper	Biting Persicaria	183	5	305
Primula vulgaris	Common Primrose	168	2	220
elatior	Jacquin's Oxlip	168	3	227
veris	Common Cowslip	168	4	229
farinosa	Bird's-eye Primrose	168	5	232
Scotica	Scottish Primrose	168	6	232
Prunella vulgaris	Common Self-heal	166	2	204
Pulmonaria officinalis	Common Lungwort	142	3	37
angustifolia	Narrow-leaved Lungwort	142	4	38
Rhinanthus Crista-Galli	Common Yellow Rattle	152	5	109
angustifolius	Hairy or Large Bushy Yellow Rattle	152	6	110
Rumex Hydrolapathum	Great Water Dock	184	1	306
crispus	Curled Dock	184	2	307
pratensis	Meadow Dock	184	3	307
aquaticus	Grainless Water Dock	184	4	308
alpinus	Alpine Dock, or Monk's Rhubarb	185	1	308
sanguincus	Bloody-veined, and Green-veined Dock	185	2	309
conglomcratus	Sharp Dock	185	3	310
pulchcr	Fiddle Dock	186	1	310
obtusifolius	Broad-leaved Dock	186	2	310
maritimus	Golden Dock	186	3	313
palustris	Yellow Dock	186	4	314
Acctosa	Common Sorrel	187	1	314
Acctosella	Sheep's Sorrel	187	2	316
Salicornia herbacca	Jointed Glasswort	180	1	284
radicans	Creeping Glasswort	180	2	286
Salsola Kali	Prickly Saltwort	180	5	287
Salvia pratensis	Meadow Clary, or Sage	158	2	147
Verbcnaca	Wild English Clary	158	3	147
clandcstina	Small-flowercd Sage			152
Samolus Valcrandi	Brookweed	171	2	245
Scleranthus annuus	Annual Knawel	180	6	289
perennis	Perennial Knawel	180	7	290
Schrophularia nodosa	Knotted Figwort	154	1	116
Ehrharti	Ehrhart's Figwort	154	2	117
aquatica	Water Figwort	154	3	117
Scorodonia	Balm-leaved Figwort	154	4	118
vernalis	Yellow Figwort	154	5	119
Scutcllaria galcriculata	Common Skull-cap	166	3	205
minor	Lesser Skull-cap	166	4	206
Sibthorpia Europæa	Creeping Sibthorpia	157	2	134
Solanum Dulcamara	Woody Nightshade	147	3	70
nigrum	Common Nightshade	147	4	71
Stachys sylvatica	Hedge Woundwort	164	2	190
palustris	Marsh Woundwort	164	3	191
Germanica	Downy Woundwort	164	4	192

		Plate	Fig.	Page
Stachys arvensis	Corn Woundwort	164	5	193
annua	Pale Annual Woundwort	164	6	194
Statice Limonium	Spreading spiked Sea Lavender	172	1	251
Bahusiensis	Remote-flowered Sea Lavender	172	2	251
binervosa	Upright spiked Sea Lavender	172	3	252
Caspia	Matted Thrift	172	4	254
Suæda fruticosa	Shrubby Sea Blite	180	3	286
maritima	Annual Sea Blite	180	4	286
Symphytum officinale	Common Comfrey	145	4	54
tuberosum	Tuberous Comfrey	145	5	56
Teucrium Scorodonia	Wood Germander	160	3	173
Scordium	Water Germander	160	4	174
Chamædrys	Wall Germander	160	5	175
Botrys	Cut-leaved Annual Germander			175
Thesium linophyllum	Lint-leaved Bastard Toad-flax	188	3	323
humile	Erect Bastard Toad-flax			323
Thymus Serpyllum	Wild Thyme	160	1	165
Trientalis Europæa	Chickweed Winter Green	169	3	235
Utricularia vulgaris	Greater Bladder-wort	167	6	215
intermedia	Intermediate Bladder-wort	167	7	216
minor	Lesser Bladder-wort	167	8	216
Verbascum Thapsus	Great Mullein	157	3	134
thapsiforme	Thapsus-like Mullein			136
Blattaria	Moth Mullein	157	4	136
vergatum	Large-flowered Primrose-ld. Mullein	157	5	137
pulverulentum	Yellow Hoary Mullein	157	6	137
Lychnitis	White Mullein	157	7	138
nigrum	Dark Mullein	157	8	139
Verbena officinalis	Common Vervain	167	1	208
Veronica spicata	Spiked Speedwell	150	1	89
serpyllifolia	Thyme-leaved Speedwell	150	2	90
alpina	Alpine Speedwell	150	3	90
saxatilis	Blue Rock Speedwell	150	4	91
fruticulosa	Flesh-coloured Speedwell	150	5	92
scutellata	Marsh Speedwell	150	6	92
Anagallis	Water Speedwell	150	7	92
Beccabunga	Brooklime	150	8	93
officinalis	Common Speedwell	151	1	93
montana	Mountain Speedwell	151	2	95
Chamædrys	Germander Speedwell	151	3	95
hederifolia	Ivy-leaved Speedwell	151	4	99
agrestis	Green Procumbent Field Speedwell	151	5	100
Buxbaumii	Buxbaum's Speedwell	151	6	101
arvensis	Wall Speedwell	151	7	102
verna	Vernal Speedwell	151	8	102
triphyllos	Blunt Fingered Speedwell	151	9	102
Villarsia nymphæoides	Nymphæa-like Villarsia	139	3	13

THE

FLOWERING PLANTS

OF

GREAT BRITAIN.

Order LV. GENTIANEÆ.—THE GENTIAN TRIBE.

Calyx generally 5, sometimes 4 or 8-cleft, not falling off; *corolla* of 1 petal, its lobes the same in number as those of the calyx, not falling off, twisted when in bud, often fringed about the mouth of the tube; *stamens* equalling in number the lobes of the corolla, and alternate with them; *ovary* of 2 carpels, 1- or imperfectly 2-celled; *style* 1; *stigmas* 2; *fruit* a capsule or berry, many-seeded. This is a very extensive Order, consisting chiefly of herbaceous plants, with opposite, usually sessile leaves, and with no stipules. Many of the flowers are very beautiful, and the plants of the Order are remarkable for their bitter stomachic properties. They are distributed throughout all climates, several of them growing on mountains, near the regions of perpetual snow.

1. Gentiána.—*Calyx* 4—5-cleft; *corolla* somewhat bell-shaped, or funnel or salver-shaped; *stamens* 5; *styles* often combined. Name from *Gentius*, an ancient king of Illyria, who discovered its medicinal properties.

2. Cicéndia (Gentianella).—*Calyx* 4-cleft; *corolla* 4-cleft, funnel-shaped, the tube swelling; *stamens* 4; *anthers* opening lengthwise; *capsule* 1-celled, 2-valved. Origin of name unknown.

3. Erythræa (Centaury).—*Calyx* 5-cleft; *corolla* funnel-shaped, 5-cleft, not falling off; *stamens* 5; *anthers* becoming spirally twisted; *stigmas* 2; *capsule* nearly cylindrical, imperfectly 2-celled. Name from the Greek *erythros*, red, from the colour of the flowers.

4. Chlóra (Yellow-wort).—*Calyx* deeply 8-cleft; *corolla* with a very short tube, 8-cleft; *stamens* 8; *stigma* 2—4-cleft. Name from the Greek *chloros*, yellow, from the colour of the flowers.

5. Menyánthes (Buck-bean).—*Calyx* deeply 5-cleft; *corolla* funnel-shaped, with 5 lobes, fringed all over the inner surface; *stamens* 5; *stigma* 2-lobed. Name of doubtful origin.

6. Villársia.—*Calyx* deeply 5-cleft; *corolla* wheel-shaped, with 5 lobes, which are fringed only at the base; *stamens* 5; *stigma* with 2 toothed lobes. Name in honour of M. de Villars, a French botanist.

1. Gentiána (Gentian).

1. *G. Pneumonánthe* (Marsh Gentian).—*Leaves* linear, blunt; *flowers* terminal and axillary, nearly sessile; *corolla* 5-cleft; *root* perennial. This plant is known, when in flower, from all the other Gentians, by the fine



broad greenish stripes extending from the top to the base of the rich deep blue corolla, which is rather funnel-shaped than bell-shaped. There are usually one or two blossoms on the same stalk, and the plant is in flower from August to September. It occurs on several moist heathy places of England, but is very rare. The bitter tonic principle, which renders the Gentians so valuable in medicine, exists to a considerable degree in this species; and both this and *G. Amarélla* may be used instead of the yellow *G. lútea*, which we procure from other countries, and which is found in Italy, Germany, France, Sweden, Lapland, and some parts of North America. In this latter plant the juices are so intensely bitter, that large tracts of grass land are, in several of these countries, left untouched by cattle; to whom, indeed, none of the Gentian tribe are acceptable. The medicinal use of the Gentian is of great antiquity and Parkinson says of it, "The wonderful wholesomeness of Gentian cannot be easilie knowne by reason our daintie tastes refuse to take thereof for the bitternesse' sake; but otherwise it would undoubtedly worke admirable cures for the stomache and lungs. It is also a speciall counterpoison against any infection, as against the violence of a mad dog's tooth."

Our plant is the Calathian violet of the old writers. A plant called Marsh Felwort, *Swertia perennis*, is very nearly allied to this. It is said by Hudson to have been found in Wales by Dr. Richardson, but it is believed that the Marsh Gentian was mistaken for it. Bishop Mant thus alludes to the two plants:—

"And see Marsh Felwort bares to view
His wheel quintuple's brilliant blue,

Cambria, thy pride! if Cambrian coast
Indeed that native beauty boast.
Less apt to pay the searcher's cares
Than that a kindred name which bears,
The beauty of the Gentian race
Whose gallant flowers with 'bravery grace,'
Or chalky down, or meadow wet,
The blue Calathian violet."

The Felwort appears to have been highly prized, for we find Gower saying—

"Though toke she feldwodde and verveyne,
Of herbes ben not better tweyne."

2. *G. vérna* (Spring Gentian).—*Stem* tufted, 1-flowered; *leaves* egg-shaped, lower ones crowded; *calyx* angular, with sharp teeth; *corolla* salver-shaped, with cleft segments, 5 large and 5 small; *root* perennial. This is a very lovely Gentian, sometimes cultivated in gardens, though it is smaller than the handsome *G. acaúlis*, which is still more frequently to be seen on the flower-bed, and which is a native of the Swiss mountains. The Spring Gentian flowers in April. It is a rare plant of Alpine pastures, growing in barren limestone districts. It has been found in Teesdale, Durham, and in some places in Ireland. Its stem is prostrate and rooting, and its flower is rather large, and intensely blue.

Many of the Gentians are mountain flowers, some growing at heights beyond which nothing is to be found save moss and lichen; and often they are, on the Swiss mountains, the companions of some of the Primrose tribe on the very verge of eternal snow. The severest intense cold does not hurt them, and they grow on

tropical elevations often at a great height. Until recently, it was thought that they never occurred in these regions at a lower elevation than 7,852 feet; but Dr. Joseph Hooker, in his late botanic researches on the Himalayan mountains, found one, *G. arenária*, at an elevation of only 2,000 feet. The whole climate was there thoroughly tropical, but the Gentian grew on mossy rocks cooled by the spring of the river. One species has been found on the Himalaya range at the height of 16,000 feet; and the *G. prostráta* occurs in the Rocky Mountains of America, at an equal elevation to this.

Meyen, the German writer on the Geography of Plants, remarks, "It is an inexpressible pleasure which only a botanist can feel, when, coming from the North, he ascends a high mountain in a southern region, and finds one well-known plant after another. Even in the Swiss mountains his pleasure is great; but how much greater is it when far from home he is wandering on the mountains of the southern hemisphere! The sight of a little Gentian, very similar to our *G. uliginósa* and *G. nivális*, at a height of 14,000 or 15,000 feet, as in the Cordilleras of Southern Peru, can enchain the botanist for hours; he again and again gathers this little plant, which takes him, at least in imagination, home."

3. *G. nivális* (Small Alpine Gentian).—*Leaves* egg-shaped, lowermost broadly elliptical; *branches* single-flowered; *corolla* salver-shaped, 5-cleft, with intermediate smaller segments; *calyx* cylindrical, with five keeled angles; *root* annual. This is an exceedingly rare and beautiful little Gentian, having an erect stem, slightly

branched, and from two to six inches high. It grows on the summit of Highland mountains, bearing in August flowers of most brilliant blue colour.

4. *G. Amarélla* (Small-flowered Gentian)—*Stem* erect, branched, many-flowered; *calyx* 5-cleft; *corolla* salver-shaped, 5-cleft, fringed in the throat; *root* annual. This species grows on dry limestone hills, but is not frequent. It is a formal-looking plant, remarkably erect, with a square leafy stem, often tinged with purple, very variable in size, being from three to twelve inches high. The flowers are rather large, of a purplish blue colour, expanding only in bright sunshine, and occurring in August and September.

5. *G. campéstris* (Field Gentian).—*Stem* erect, branched, many-flowered; *calyx* 4-cleft, the 2 outer lobes much larger than the others; *corolla* salver-shaped, 4-cleft, fringed in the throat; *root* annual. This plant is very similar to the last, but distinguished from it by its larger 4-cleft flowers, which often cluster in great numbers at the upper part of the stem from August to October. The plant is very common on hilly pastures, especially in Scotland; and on limestone hills, near the sea, its dull purple blossoms often stand up above the short grasses. It contains in every part of it some of the tonic, bitter principle common to the tribe, and is sometimes used by country people to mingle with their hops in brewing. Several of the species have, in various times and places, been used instead of the hop; and before the general culture of the latter plant, malt liquor received much of its flavour from species called in those days Felwort, Bitterwort, Baldmoyne, or

Bald-money. In those times, when queens and maids of honour drank foaming ale for their breakfast, several bitter plants were in much request; and Gerarde tells, that a species of Gentian was sent to him from "Burgundie by Master Isaac de Lanne, for the encrease of his garden." The species to which he refers appears to be the Gentian of commerce, *G. lútea*, still used for various disorders, but not for so many as in those days, when it was considered soporific as well as tonic. Modern physicians find, however, that one species at least, *G. microphýlla*, has soporific properties, and it has been used in many instances in procuring sleep to the weary sufferer. The basis of the celebrated Portland powder is said to be Gentian; and as the roots of nearly all the species contain a large proportion of sugar, an intoxicating liquor has been distilled from them, which the Swiss call *Gentianwasser*. The French term the Gentian *La Gentiane*, and the Germans *Der Enzian*; the Dutch call it *Gentiaan*, the Italians *Genziana*, and the Russians *Goretschafka*.

2. Cicéndia (Gentianélla).

1. *C. filifórmis* (Least Gentianélla).—*Leaves* slender, lanceolate, sessile; *stem* forked, sessile; *flower stalks* elongated; *root* annual. This is a graceful little plant, very similar in its habit to the Dwarf Centaury, and with a stem about the same height, but with smaller flowers. It is from two to four inches high, the narrow leaves withering early, and the flowers opening only during sunshine. These flowers are yellow, occurring

from July to September. It differs from the Gentians in having four instead of five stamens, and its calyx and corolla 4-cleft. It grows on sandy heaths, where water has stood during winter. It is found in the south and south-west of England, and in sandy turf-bogs in Ireland.

3. Erythræa (Centaury).

1. *E. Centáurium* (Common Centaury).—*Stem* quadrangular, branched above; *leaves* oblong; *flowers* in nearly sessile panicles; *calyx* half as long as the tube of the opening corolla; *root* annual. The Common Centaury is a pretty and frequent plant on heaths and dry pastures, as well as on cliffs by the sea, from June to September. If we look for its flowers on a cloudy day, we find that they are all closed up, nor are they ever to be seen in full beauty after three o'clock. We have, however, sometimes seen a gathered specimen gradually unfold its blossoms even on an evening, when placed on the hearth in the full light and warmth of the fire. The stem bears its panicles of blossoms near the top. They are of a beautiful rose-colour, in very pretty form, and varied by the golden anthers. The leaves are of a light delicate green, remarkably smooth, and having strong parallel ribs. They are intensely bitter, and possess tonic properties; as Dodsley says—

> "Wormwood and Centaury, their bitter juice
> To aid digestion's sickly powers refine."

The Centaury is a long approved medicinal herb, and undoubtedly one of the very best which our native

fields supply. We have the authority of Dr. George Moore, for saying that it may be taken with great success in brow agues and intermittent fevers. This author remarks, that the poor on the coast of Sussex make a strong infusion of this excellent bitter; and we have ourselves seen it much used in Kent as a tonic, and often dried for the purpose. Mr. Purton also considers an infusion either of the leaves or roots good for weak digestions; and Professor Burnett remarks, that did not our catalogue already groan, this plant might be added to the list of the "Materia Medica." The old herbalists, who called it "the ordinarie small Centaury," say that it is "under the dominion of the sun, as it appears in that the flowers open and shut as the sun either showeth or hideth his face." They recommend it as a cure for jaundice and agues, and also, in a fresh state, as an outward application to wounds. They say that the infusion of the plant removes all freckles, and add, what is quite true, that the herb is perfectly safe.

2. *E. pulchélla* (Dwarf-branched Centaury).—*Stem* quadrangular, much branched; *leaves* egg-shaped, the uppermost oblong; *flowers* stalked, in loose panicles, axillary, and terminal; *calyx* nearly as long as the tube of the opening corolla; *root* annual. This species is much like the preceding, and probably but a variety of it. The stem is either simple, or much branched, even from the base, six or eight inches high, having numerous rose-coloured flowers in leafy forked panicles, with a single flower-stalk between the branches. The length of the tube of the corolla must be observed exactly at

the time when the flower is beginning to expand. The plant blossoms from July to October.

3. *E. latifólia* (Broad-leaved Tufted Centaury).—*Stem* quadrangular, short, branched from the base; *leaves* broadly elliptical, blunt; *flowers* in crowded forked tufts, sessile; *calyx* rather shorter than the tube of the opening corolla; *segments* of the corolla lanceolate; *root* annual. This species has a thick stem, often not more than two or three inches high, though occasionally taller. It usually divides itself into three main branches, and has very large root and stem leaves strongly ribbed, its pink tufts of flowers opening in June and July. It occurs in various places near the sea.

4. *E. linarifólia* (Dwarf-tufted Centaury).—*Stem* simple, or branched; *root-leaves* crowded, tapering at the base; *stem-leaves* oblong, linear, blunt; *flowers* in sessile clusters; *calyx* as long as the tube of the opening corolla, deeply-cleft; *root* annual. This plant, which is found on various sandy sea-shores, is, perhaps, not truly distinct from the Common Centaury, though differing from it in its longer calyx segments. Its leaves are all narrow and ribbed, and it varies in height from two to six inches. Its rose-coloured flowers expand from June to August.

4. Chlóra (Yellow-wort).

1. *C. perfoliáta* (Perfoliate Yellow-wort).—*Leaves* connate, perfoliate, egg-shaped, glaucous; *panicle* forked, many-flowered; *calyx* divided to its base into long narrow segments; *root* annual. This pretty plant can scarcely be called common; though on chalky soils, in



the middle and south of England, we may often find it in abundance. On the cliffs of Dover one might see on any summer day, a hundred plants during a morning walk, the yellow flower reminding us, both in form and hue, of some of the garden jessamines. But the Yellow-wort is an herbaceous, and not a shrubby plant; and its pale sea-green stem, a foot or a foot and a half high, runs through the leaves, and, like them, is thickly covered with sea-green bloom. The flowers open only in sunshine, and have a singular habit of expansion: for the central flower unfolds early in the morning and closes at noon, and then the lateral flowers expand and remain open till sunset. It is very bitter, and is often called on this account Yellow Gentian, and doubtless its properties are somewhat similar to those of that tonic bitter plant. The seeds, if pressed, are found to be full of a yellowish thick juice. The whole plant will afford a good yellow dye. It was formerly called *Blackstonia*, after a London surgeon named Blackstone. In the time of John Ray, it was termed *Centaureum luteum.* Lister, in writing to Ray in 1669, says, "I add, by way of present, a couple of pastiles, or small cakes, made of the juices, dried in the sun, of our English store of plants; they are unmixed, and purely natural as they were taken from the plants by incision. The one was, in the drawing or issuing out of the plants, a purple juice; the other a gold colour. The one burns freely with a flame, and is of no offensive or ungrateful smell; the other burns not at all with a flame, at least continues it not, and is intoxicating; they are both bitter. Guess me the plants that afford them. I have a score of different

juices beside by me in cakes ; but these are, if I mistake not, (at least to the best of my knowledge,) nowhere made mention of by any author, although the plants be common in England." As our great naturalist replied, that he was "not so cunning as to tell" what plants afforded these cakes, Mr. Lister informed him that they were our Yellow-wort, and one of the Lettuce plants, *Lactuca sylvestris.*

The *Chlóra* blossoms from June to September. The French call it *Chlore ;* the Germans, *Biberkraut.* It is still sometimes termed *Perfoliate Centaury.*

5. Menyánthes (Buck-bean).

1. *M. trifoliáta* (Buck-bean, or Marsh Trefoil).—*Leaves* ternate, stalked ; *leaflets* equal, inversely egg-shaped, wavy ; *flower-stalk* supporting a stalked cluster; *roots* perennial. A more lovely plant than this is not to be found in our native Flora. It grows in marshy boggy grounds, the spots so well loved by the botanist. Mr. Curtis justly says, that it is equal in beauty to the Kalmias, Rhododendrons, and exotic Heaths, on which so much money is expended, while this is unregarded. The stem is but little raised above the moist soil, and has at its top three succulent sea-green leaflets, exactly like those of the common field-bean ; each leaf-stalk has a sheathing base, opposite to one of which rises the beautiful cluster of blossoms. Before these are fully expanded, they are of a bright rose tint; and when quite open, the petals are covered with a white silken fringe, like plush. The flowers appear in June and July. This plant is often called Bog-bean, and is the *Meniante*

of the French, and the *Fieberklee*, or *Bachsbone*, of the Germans. The Dutch call it *Driebladige ruigbloem*, and also *Boex boonen;* while about Hamburgh it is known as the "Flower of Liberty," and the inhabitants say that it grows only within their land, and has never been seen in the south of Denmark, which adjoins it. Sir Wm. Hooker saw it in great plenty in Iceland, and says that it is of much use to travellers there, who are unacquainted with the route on the morasses; for they are well aware that wherever it grows they may safely pass over its thickly-woven roots, which make a firm bed beneath the soft subsoil. The Icelanders use pieces of their matted tufts, to prevent the saddle or any load from chafing the horse's back.

The bitter roots of the Bog-bean form one of our best native tonic medicines, and the author has known them to be placed in wine, which was afterwards drunk with very great benefit by persons afflicted with rheumatism. They are also an old and effectual remedy for ague; and in Sweden the plant is used as a substitute for the hop, two ounces of the leaves serving instead of two pounds of that plant. The Laplanders eat the powdered roots, but probably employ some means to lessen their bitterness. From Parkinson we learn that the plant was in his time called Marsh Clover.

6. Villársia (Villarsia).

1. *V. nymphæoídes* (Nymphæa-like Villarsia).—*Leaves* round, heart-shaped at the base, floating, wavy at the edges; *stem* long, round, branched; *root* perennial. This is a most elegant water-plant, bearing its large

yellow plaited flowers in July and August. It is very rare, but occurs in the still back-waters of the Thames, and some rivers in Yorkshire. In Holland it is so abundant as almost to cover some of the canals. The French botanist, M. de Villars, whose memory the name of this flower records, wrote in 1786 a "Flora of Dauphiné," which is in use even in the present day. The leaves of the plant are much like those of the Water-lily, but are smaller in size. The Villarsia may be easily propagated either by seeds or by dividing the roots, and, once established, it is very difficult of extirpation.

Order LVI. POLEMONIACEÆ.—JACOB'S LADDER TRIBE.

Calyx deeply 5-cleft, not falling off; *corolla* regular, 5-lobed; *stamens* 5, from the middle of the tube of the corolla; *ovary* 3-celled; *style* single; *stigma* 3-cleft; *capsule* 3-celled, 3-valved. This Order consists of herbaceous plants, often having handsome flowers, but possessing no important properties. They are remarkable for the blue colour of their pollen; and several, as the various species of *Phlox*, *Gilea*, and *Cobœa*, adorn our gardens.

1. Polemónium (Jacob's Ladder).—*Corolla* wheel-shaped, with erect lobes; *stamens* bearded at the base; *cells* of the capsule many-seeded. Name, the Greek name of the plant.

1. Polemónium (Jacob's Ladder).

1. *P. cœrúleum* (Blue Jacob's Ladder, or Greek Valerian).—*Stem* angular; *leaves* smooth, pinnate; *leaflets* egg-shaped, somewhat lanceolate; *flowers* in panicles; *root* perennial. This plant, though very common in gardens, is rare in a wild state, and is chiefly found in the north of this kingdom. Several of its localities in Scottish woods are recorded, but it is doubtful if it is truly wild there, though on some banks and bushy spots of Yorkshire and Derbyshire it appears to be really so. The stem is angular, about one or two feet high, and its pinnated leaf suggested its name in days when men readily traced in Nature some similarity to the objects and allusions of Holy Writ:—

> "And see of favour'd York the child,
> Or Derby's mountain thickets wild,
> The plant not strange to Scottish skies,
> Whose leaflets, ladder-like, arise,
> Pointing to azure vaults above,
> The Patriarch's Dream—in southern grove
> Infrequent."

The flowers of this plant appear in June and July; in colour they are pale blue, or white, and of a delicate texture. The whole plant is somewhat astringent, but has not the virtues which we might from its name expect. Pliny relates of the *Polemónium*, that it had also among the Greeks the name *Chilodynamia*, on account of its excellent properties; while the name by which it is known to us is, according to his account, from *polemos*, war, because two kings, having each claimed the merit of discovering the great uses of the herb, very wisely

had recourse to arms to settle the disputed question. But every one conversant with the names of ancient writers, is aware of the difficulty of exactly ascertaining in some cases the plants intended. Professor Burnett believes that the Marsh Polemonium of Hippocrates was the *Gratiola*, or Hedge Hyssop, a plant possessing very active properties. The French call our Jacob's Ladder *La Valériane Grecque.* It is the *Speerkraut* of the Germans; the *Spierkruid* of the Dutch; and the *Polemonium* of the Italians. The Russians call it *Grezkœ balderjan.*

Order LVII. CONVOLVULACEÆ.—THE BINDWEED TRIBE.

Calyx inferior, of 4—5 sepals, not falling off; *corolla* of one petal, regular, plaited; *stamens* 5, from the base of the corolla; *ovary* 2—4-celled, few-seeded, surrounded below by a fleshy ring; *style* 1; *stigmas* 2; *capsule* 1—4-celled. This Order consists either of herbs or shrubs which are generally climbing, bearing large and showy flowers, and milky juices. One of our British genera, *Cuscuta*, is parasitic, and has no leaves.

1. Convólvulus (Bindweed).—*Corolla* vase-shaped, with 5 plaits and 5 very shallow lobes; *style* 1; *stigmas* 2; *capsule* 2-celled and 2-valved. Name from the Latin *convolvo*, to entwine, from the twisting habit of many species.

2. Calystégia (Hooded Bindweed).—*Calyx* with 5



sepals inclosed within 2 very large opposite bracts; *corolla* vase-shaped; *style* 1; *stigma* 2-lobed; *capsule* 2-celled, 1-valved. Name from *calos*, beautiful, and *stegé*, a covering, from its bracts.

3. Cuscúta (Dodder). — *Calyx* 4—5-cleft; *corolla* bell-shaped, 4—5-cleft, with 4—5 scales at the base within. Name said to be derived from the Arabic, *keshout*, to bind.

1. Convólvulus (Bindweed).

1. *C. arvénsis* (Field Bindweed).—*Stem* climbing; *leaves* arrow-shaped, their lobes acute; *stalks* mostly single-flowered; *bracts* minute, distant from the flower; *root* perennial. Everybody knows the pretty pink vase-like cups of the small Bindweed, which, in June and July, hang on trailing stems from many a wayside bank, shutting up at night, or when rain is coming. The farmer knows them but too well, for this plant is one of the most troublesome weeds of his corn-field, twining itself around the stalks of the wheat or barley, and taking such good hold that no wind or weather can rend it from its support. A blade of grass, a tall nettle, a bush, or any other object near it, is soon garlanded with its numerous almond-scented flowers. It has many country names, as Bindweed, Bearbind, Hedgebell, Ropewind, Withywind, all expressive of its clinging habits, besides some names which betoken the dislike entertained of the intruder, and which are unsuited to our pages. In France the plant is called *Le liseron des champs;* and in Germany, *Die winde.* In Italy the Convolvulus has the name of *Vilucchio;*

and the Spaniards call it *Correguela.* It is most difficult of eradication, for the white-jointed roots not only increase readily, but are very tenacious of life, and penetrate to such a depth in the soil as to lie almost beyond the reach of the ordinary instruments of culture; while, if only a small piece is left in the earth, it soon sends forth its trailing stem above the surface. In light dry soils, which are peculiarly adapted to it, the roots sometimes extend three feet below the surface; and Miller says, that its abundant growth is often a sign that gravel lies beneath. Its seed-vessels are so rarely formed, that Sir J. E. Smith remarks, that he had never seen them; and many botanists believed, some years since, that the seed was not perfected in this country. That opinion is now known to be erroneous, and the author has gathered near Ramsgate several of the dry capsules, which are about as large as a pea, containing the matured blackish seeds. The flowers expand all the summer; they are sometimes of a deep rose colour, at others paler, or even white; and they often serve as canopies to some little lilac-coloured insects which, probably, find food as well as shelter within them.

"Our vernal flowers have faded now, for summer is abroad;
There's thicker foliage on the trees, and greener is the sod;
You cannot ransack wood or hill, the wayside hedge or dell,
But you shall find a store of flowers whose charms no tongue can tell.
It is the month of roses, the sweetbriar, and the thorn;
While peering at the sunshine amidst the emerald corn,
The pimpernel thrusts out its bloom of scarlet, closing up
At every passing shower or cloud, the treasures of its cup;
And sweet as a bruised walnut-leaf, when it begins to fade,
The lemon-scented agrimony perfumes all the glade,

With starry blossoms topaz-hued; while near them in the wheat,
Pink-bell'd convolvuli trail out their corals fair and sweet."

The root of this Bindweed affords a resinous substance of some medicinal power, though not so active as the scammony which is procured from the root of *C. Scammónia*, and which is imported from the Levant, where the Convolvulus which produces it is very common. Several of the tribe afford similar resins, and the medicinal jalap is yielded by the root of the *Ipomæa*, or *Convólvulus Jálapa*. One of the Bindweed species has of late obtained some celebrity for its uses as a material for cordage, matting, and paper. This is the *Convolvulus Cissus*, large quantities of which are, it is said, to be procured from the shores of Guiana, as well as some parts of the African coast. When stripped of the bark, the fibres are pressed quite dry; they are then bleached and made into a pulp in the ordinary way. A patent has been taken out by the inventor of the Bindweed paper, and the manufactured article has been described as equal to that made of linen or cotton, while an inferior paper is made of the bark by an easier process; and materials may be also obtained from it for filling chairs and mattrasses, as well as for cordage.

2. Calystégia (Hooded Bindweed).

1. *C. sépium* (Great Hooded Bindweed).—*Stem* climbing; *leaves* arrow-shaped, their lobes often blunt, as if cut off; *stalks* single-flowered; *bracts* heart-shaped; *stigmas* short and blunt; *root* perennial. The plants of this genus are very nearly allied to those of the last, differing chiefly in the conspicuous leaf-like bracts. Our

Great White Bindweed is a well-known wild-flower, its large foliage hanging about the hedges, and giving them, in autumn, a yellow tinge by its deep colour. The leaves differ from those of any other native plant, in the peculiar manner in which their lobes are cut off at the base; but they are not all thus characterised, as some are heart-shaped. The beautiful large snowy bells, sometimes striped with pink, and occasionally entirely of rose-colour, hang gracefully among the large leaves from June to September, and compensate by their elegance of form and hue for the absence of fragrance. They are not so sensitive to rain as the flowers of the Pink Bindweed, nor do they close at the approach of night. Country people call the plant Old Man's Nightcap, and Great Withywind. Its roots have medicinal properties, similar to those of the Scammony; and Dr. Withering thinks they might be used as a substitute for that drug. Swine eat them without injury. The plant rarely produces seed.

The large Bindweed attains great luxuriance in hedges and banks near rivers, sending out masses of leaves on its climbing stems. Meyen, referring to the *Lianas*, or climbing plants, which are so striking a feature of tropical scenery, and give to the primeval forests their character of exuberant vegetation, says, "Plants of this kind are almost unknown in our northern regions. The Hop, the Honeysuckles, and Bryonies, can give us only a faint idea of the *Lianas* of those countries; but our Great White Bindweed, which often grows profusely over the highest bushes, may give us, by its beautiful leaf and the size of the flower, some

notion of the way in which the tropical *Convolvuli* adorn the tops of the highest trees."

2. *C. Soldanélla* (Sea-side Convolvulus).—*Leaves* kidney shaped, slightly angular, fleshy; *stalks* 1-flowered, with 4 membranous angles; *bracts* egg-shaped, close to the flowers; *root* perennial. This is one of the many interesting ornaments of our sandy shores; where, though we may sometimes wander for miles without seeing it, it is in some places very abundant, and is always an exceedingly pretty plant. On the sandhills about Sandwich, and among pebbles on the shore at New Romney, in Kent, it is plentiful; as it is also on the sandy shore of the western counties of England.

The flowers of this species are rose-coloured, and very conspicuous, expanding from June to September. The seed-vessel is remarkably large, sometimes even as large as a hazel-nut, and the seeds themselves scarcely smaller than peas. The Soldanella grows not only on hills and banks of sand, but also in crevices of rocks or on cliffs. Mr. Thompson, referring to its growth in Wales, says, "It is one of the productions claimed by the greywacke formation of the Penmonmaur mountains, and denied to the limestone of Orme's Head. It is true that a few specimens may be encountered near Llandudno, but they are seldom seen in a flowering state, and I have never found one seed-vessel of that species on the shore opposite the town of Conway, although familiar to me from frequent search. The plant, however, flowers and produces seed in great abundance on the level tract of shore subtending the cliffs of Penmonbach." The flowers of this species close during night and rainy weather. They are

often almost all that can be seen of the plant, as the leaves are nearly buried in the sand.

3. Cuscúta (Dodder).

1. *C. Europæa* (Greater Dodder).—*Heads of flowers* dense and sessile, with bracts, *styles* included; *tube* of the corolla longer than the calyx; *scales* pressed close to the tube; *root* annual. This is a less frequent kind of Dodder than that which so commonly winds about our furze bushes. It is, like all the species, without leaves, and has very long red twining stems, covered with small tubercles, which serve as roots; and in July and August the little clusters of pale yellowish rose-coloured flowers expand. The plant is, however, rather local than rare, abounding in Cambridgeshire, Huntingdonshire, and some other counties, entwining thistles, nettles, hops, beans, and some other plants. Unlike the plants more strictly parasitic, the seeds of the Dodder germinate at first in common soil, though, if the seedlings be kept there, they very soon perish. When in the neighbourhood of a vegetation suited to their growth they twine about it, sending their coils from left to right, contrary to the sun's apparent course. After they have well inserted their subsidiary roots within the substance of the neighbouring plants, the original root from which they derived their earliest nutriment dies, leaving them to feed on the juices of the adopted vegetable. A writer in Loudon's "Magazine of Natural History," says of the Greater Dodder, "This parasite can be established wherever the hop plant grows, by placing in the autumn



a wreath of the Dodder-vine, bearing ripe capsules, on the earth about the base of the stems of the hop. The seeds of the Dodder, escaping from their capsules, will remain on the earth's surface through the winter, and germinate early in the ensuing spring, some days ere the stems of the hop shoot forth. It will then be highly pleasing to observe the spiral convolutions of the sprouting embryo of the Dodder, convincing us that vegetable instincts are innate; for even in the seed, if examined, the embryo may be found convolved about the central fleshy globose albumen. By the time the hop stems will have burst through the soil, many of the embryos of the Dodder will have perished; but when the survivors happen to touch the hop-stem they very soon adhere, and insert their sap-sucking glands into the bark of the hop-stem, and from the date of doing this speedily change their pale aspect and feeble condition to a ruddy healthy hue, and a state of gross luxuriance; and these latter effects are maintained through all the copious ramifications of the plant by the branches emitting a fresh cluster of absorbing glands into the hop-stem at many of the points at which they clasp it." This botanist adds, that he had the Dodder growing on hops in his garden for three successive summers. "In one of the summers," he remarks, "it flourished besides on an exotic species of Teasel (*Acænops vulgáris*), nearly allied to the British *Dípsacus pilósus*, which had grown up beside the rubbish-heap, merely from the dead seed-bearing stems of the Teasel and the Dodder along with those of the hop having met at the rubbish-heap during the preceding winter, in the operation of cleansing the

garden of its annual herbage. The reddened wreaths of Dodder branches, knotted with heads of flowers, were hung in elegant festoons about the arm-spread branches of the teasel, and contrasted strikingly with its abundant verdant leaves. I have known this species transplanted, by cuttings, or rather by a branch broken off, into a stove, and there successfully established on a growing plant of the Red Malabar Nightshade, and on some other plant whose name I have forgotten. In the greenhouses at Cambridge a very vigorously growing perennial species of Dodder, if I rightly remember, from China, luxuriates on plants of the common and broad-leaved Ivy, and on the succulent shoots of the Pelargonium, known by the name of the Horse-shoe geranium." Mr. Dovaston remarks, that he has seen one of the Dodders in such tangled profusion at Liphook, in Hampshire, that it absolutely pulled down and killed the nettles.

Gerarde describes the Dodder as "a strange herbe, altogether without leaves or roote, like unto threds, very much snarled or wrapped together confusedly, winding itselfe about bushes and hedges, and sundrie kindes of herbes. The threds are somewhat red, upon which grow here and there little round heads or knops, bringing forth at the first slender white flowers, afterwards a small seede." The old writers had several profane and coarse names for the plant. It was also commonly called Tetter and Strangle-weed; and the learned Sir Thomas Browne, who mentions it by these names, tells in his "Quincunx" of a rural charm used in his day against these troublesome twining plants, which con-

sisted of placing a chalked tile at each of the four corners, and another in the middle of the field in which it grew, "in order," as he says, "to diffuse the magic all about."

2. *C. Epilinum* (Flax Dodder).—*Heads of flowers* with bracts, sessile, and very succulent, *styles* included; *corolla* with a globose tube, scarcely longer than the bell-shaped calyx; *scales* closely pressed; *root* annual. This is a naturalized and not a truly wild plant. It is abundant in Germany, and is supposed to have been brought into this country with the imported flax-seed. It is very injurious to the plant on which it is parasitic. Mr. J. E. Bowman discovered the species in 1836 in some flax in a field near Ellesmere, in Shropshire. He at first took it to be *C. Europæa*, but finding, on further examination, that the structure differed somewhat from that of that plant, he forwarded it to Sir Wm. Hooker for examination. This botanist decided it to be the species which is in Germany so very destructive to the flax crop, stunting the growth of the stems by closely interlacing them, and he suggested to the discoverer the probability that all Dodder plants found on flax in this country would prove to be of this species, an opinion which subsequent observations seem to have confirmed.

The flowers in this species are large and succulent, more decidedly sessile than in *C. Europæa*, fewer in a head, very pale in colour, and of greenish rather than reddish yellow hue, with a membranous bract of a reddish colour under each head, but none under each flower; the calyx is large and spreading, its five acute teeth about as long as the corolla. Like the stem of its

congeners, those of this Dodder turn from west to east, often embracing several flax plants in their coils, and twisting them together as in a mesh of cords. "Strictly speaking," Mr. Bowman remarks, "no station can be given for this species, as it can only come to perfection where flax is cultivated; for though ripe seeds which have been shed upon the ground may germinate the ensuing spring, the young plants soon die if the flax be not at hand on which to fix themselves. Accordingly I could not find a single specimen in the same field the ensuing summer, 1837, the crop having been changed. This may account for a circumstance which occurred many years ago, and which puzzled me at the time, and also confirmed Sir Wm. Hooker's opinion, that it will only grow upon flax. I had sown some purchased flax-seed in a back border in my garden, the plants from which were infested with *C. Europæa* (as I believed); I sowed some of the Dodder seeds among nettles in the corner of a field, and was disappointed at their not producing a single plant, though I now think it probable that they germinated and died away for want of their proper food. If botanists would search in fields of growing flax, or among purchased seed in spring, they would probably be rewarded by finding either living plants or seeds of this troublesome parasite, which I suspect is not uncommon; and it would well repay the farmer to rid his flax-seed of this worst species of *tares* before sowing it. The seeds are large, nearly round, and would easily be detected among the flax."

Since the period in which this opinion was given it has become a well-known fact, that the seeds of this

Dodder are continually being imported with foreign seed, often in company with the Gold of Pleasure, the Darnel, the three-horned Galium, and other plants which trouble the farmer. Professor Lindley, in some recent remarks on the subject, says also, that if flax be again sown on the same land it is astonishing, however few the weeds might have been in the first instance, how greatly they become augmented in the second sowing. "In 1853," says this botanist, "we examined a crop of flax grown from foreign seeds, which had in it a few of these weeds: seeds of this crop were sown again in another field on the same farm in 1854, the present season, but with a four-fold increase of all the above-named weeds, together with the usual British examples. The Dodder, indeed, which presented but a few isolated patches in 1853, in the following year became spread throughout the crop to its irreparable injury."

3. *C. Epithymum* (Lesser Dodder).—*Heads* of many small flowers, sessile, and with bracts at the base; *corolla* with cylindrical tube, longer than the bell-shaped calyx; *scales* converging, as long as the tube of the corolla; *root* annual. This is a very frequent plant on heath lands, winding its dark red threads in entangling meshes about the plants there, sometimes pulling down the Yellow Tormentil, sometimes lacing together whole clumps of the stems of the Thyme, and other flowers which grow among the heather. But it is the furze-bush, the Golden Furze, which is the chief victim of this parasite, and we have seen during August and September large tracts of furze-clad land where the bushes were so bound about with its threads that they pre-

sented a most singular appearance, and the form of their branches was quite concealed, while not a yellow bud had found strength or room to expand, though on plants from which the parasite was absent many a fragrant blossom was spread out in luxuriant beauty. The flowers of this Dodder are very pretty; they are small, flesh-coloured, and so thick in texture that they look as if cut out of wax; they grow in dense clusters, but it is almost impossible to get away a mass of their blooms and stems from the prickly bough which they grasp so closely. Minshew says, that our word dodder is from the Greek *dotteren,* to tremble, because with the least breath of wind the plant "doth dodder or tremble." In France the plant is called *Cuscute,* and the species growing on the flax had the old country name of *Goutte de lin,* Flax-drop; in Germany it is termed *Flachsseide;* in Holland, *Warkruid;* and in Russia, *Pawiliza.* It seems to thrive well on any shrub to which it once adheres; and, according to Sweet, will flower freely, and become very handsome on plants in a hothouse. All countries, warm, cold, and temperate in climate, seem to produce Dodder. It is common in Sweden, on the Swiss Alps, in France, Germany, and Italy; has been found in Egypt and India, and on the shores of the Mediterranean. The species are very acrid: though not now used medicinally, they were formerly much prized as remedies, and some writers think that they have as powerful properties as some plants of the Convolvulus family. The old herbalists, who called the Lesser Dodder the Dodder of Thyme, held that the parasite, partaking of the nature of the plant on which it grew, was

more beneficial when found on that than on any other herb. One of them says, "He is a physician, indeed, that hath not wit enough to choose his dodder according to the nature of the disease and humour peccant." As thyme was the "hottest herb" on which this plant was known to fix itself, so dodder of thyme was considered available for what were termed "cold greefs," and "trembling of the heart." It was said to be good for "fainting and swooning, and helpful in all diseases and griefs of the spleen." Thus we find Michael Drayton saying—

> "Here dodder, by whose help alone
> Old agues are removed."

Professor Lindley mentions a gigantic species of Dodder, *C. racemosus*, a native of Affghanistan, which even preys upon itself; one of its masses half covered a willow-tree twenty or thirty feet high; and Dr. Hooker saw a dodder in Nepal which formed a golden web over date-trees. One or two other species, called *Sipo de Chumbo*, are articles of Brazilian pharmacy. Lindley mentions that the powder of the dried plants sprinkled over wounds is thought to be healing.

4. *C. Trifólii* (Clover Dodder).—*Heads of flowers* small, sessile, and having a bract at the base; *tube* of the corolla cylindrical; *scales* converging; *calyx* narrowed below, as long as the tube of the corolla; *root* annual. This plant is very similar to the last, differing from it in having rounded spaces between the scales, while in the last these spaces are narrow and acute. The stems are, however, of a more yellowish red. It is found chiefly on clover in the Isle of Wight, and some

other parts of England, bearing its small white flowers in June and July. It is supposed to have been introduced with clover-seeds from the continent, but some botanists doubt if it is truly distinct from the Lesser Dodder.

Order LVIII. BORAGINEÆ.—THE BORAGE TRIBE.

Calyx in 5, rarely 4, deep divisions, not falling off; *corolla* of one petal, 5- or rarely 4-cleft, frequently having valves or teeth at the mouth of the tube; *stamens* 5, inserted into the corolla, and alternate with its lobes; *ovary* 4-parted, 4-seeded; *style* 1, rising from the base of the divided ovary; *fruit* consisting of 4, rarely 2, nut-like seeds, each enclosed in a pericarp. This Order consists of herbs or shrubs, with alternate leaves without stipules, their surface covered with minute asperities, on which are seated hairs or bristles, and with flowers arranged mostly in one-sided spikes or racemes. Many of the plants are eminently beautiful, like the different species of Viper's Bugloss, and in many the young buds are rolled up at the termination of the spikes into a little coil, and are pink, while the expanded flowers are blue. Blue, purple, and red are the prevailing colours of the blossoms. They are not remarkable for useful properties, but several possess a slight degree of mucilage; and the roots of some, like the Alkanet, are used in dyeing. Many of the plants of the Order are mere weeds, with little beauty.

1. Échium (Viper's Bugloss).—*Corolla* irregular, with an open mouth; *stamens* unequal in length. Name from the Greek *echis*, a viper, because the plants were supposed to cure wounds made by the bite of that reptile.

2. Pulmonária (Lungwort).—*Calyx* tubular, 5-cleft; *corolla* funnel-shaped, its throat naked; *stamens* enclosed within the corolla; *filaments* very short. Name from the Latin *pulmo*, the lungs, from its ancient use in pulmonary affections.

3. Lithospérmum (Gromwell).—*Calyx* deeply 5-cleft; *corolla* funnel-shaped, its throat naked, or with 5 minute scales; *stamens* enclosed within the corolla; *filaments* short; *seeds* stony. Name from the Greek *lithos*, a stone, and *sperma*, a seed, from its hard stone-like seeds.

4. Mertensia (Smooth Gromwell).—*Calyx* 5-cleft, half the length of the corolla; *corolla* funnel-shaped, stamens protruded beyond the tube; *anthers* 2-lobed at the base; *style* often becoming longer after flowering. Named from F. C. Mertens, a German botanist.

5. Myosótis (Scorpion Grass).—*Calyx* 5-cleft; *corolla* salver-shaped, its lobes blunt, twisted when in bud, and its throat nearly closed by blunt scales. Name from the Greek *mys*, a mouse, *ous*, *otos*, an ear, from the form of the leaves.

6. Anchúsa (Alkanet).—*Calyx* deeply 5-cleft; *corolla* funnel or salver-shaped, with a straight tube, its throat closed by prominent blunt scales. Name from the Greek *encheuo*, to dye, from the use of the roots in dyeing.

7. Lycopsis (Bugloss).—*Calyx* deeply 5-cleft; *corolla*

funnel-shaped, with a bent tube, its throat closed by prominent blunt scales. Name from *lucos*, a wolf, and *opsis*, a face, from a fancied resemblance in the flower to the face of a wolf.

8. Sýmphytum (Comfrey).—*Calyx* deeply 5-cleft; *corolla* bell-shaped, closed with 5 awl-shaped scales. Name from the Greek *symphyo*, to unite, from its supposed healing qualities.

9. Borágo (Borage).—*Calyx* deeply 5-cleft; *corolla* wheel-shaped, its throat closed with 5 short erect notched scales; *stamens* forked. Name, a corruption of *corago*, from *cor*, the heart, and *ago*, to bring, because it was supposed to give courage.

10. Asperúgo (Madwort).—*Cnlyx* 5-cleft, with alternate smaller teeth; *corolla* funnel-shaped, with rounded scales in the throat. Name from the Latin *asper*, rough, from the asperities of the leaves.

11. Cýnoglossum (Hound's Tongue).—*Calyx* 5-cleft; *corolla* funnel-shaped, with a short tube, its mouth closed by prominent blunt scales; *nuts* flattened, prickly. Name in Greek from *cyon*, a dog, and *glossa*, a tongue, from the form of the leaves.

1. Échium (Viper's Bugloss).

* *Throat of the corolla without scales, or with these very small.*

E. vulgáre (Common Viper's Bugloss).—*Stem* herbaceous, without branches, rough with prickly bristles arising from tubercles; *leaves* narrow, tapering, and bristly; *flowers* in lateral spikes; *stamens* longer than the corolla; *root* biennial. All lovers of wild flowers


1
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hail with delight the pyramid of bells which stands on the speckled and rough stem of the Viper's Bugloss, in the months of June and July. Most stately, most brilliant of wild flowers, it rises to the height of two or three feet, having, when in its most luxuriant condition, a spike of flowers more than a foot long. The colour of these bells varies from the richest and most intense violet purple to a pale blue or to bluish pink, and now and then they are white, sometimes pure as snow, but more often having just such faint tint of blue as serves to remind us that the white flower is but a variety of the original blue blossom. The plant grows most frequently on walls, banks, chalky hills, or sea-cliffs; but it also, in Cambridgeshire and some other counties, grows among the corn. We have looked on its luxuriance in the corn-fields of that county, where it rises to a great height, but we never saw it superior in size, or equal in richness of hue, to the plant as it grows on the cliffs of Dover. It is there in great profusion, often covering large masses of the chalky soil. A rough and prickly plant it is, tearing the wing of bee or butterfly which, on their way to its honied bells, pass too nearly their prickly cups, or inadvertently touch the stem or leaf. We have gathered from these cliffs specimens of the flowers three feet and a half high, with the blossoms occupying a foot and a half of its upper portion. The spotted stem indicated to the men of other times that the Bugloss had been especially created to cure the bites of the speckled viper; and its seeds, shaped as they fancied like a viper's head, confirmed the promise of the stem. The flowers were considered cordial and refresh-

ing, and, according to Parkinson, they were mingled with that of the Borage, and were candied by gentlewomen into comfits. The plant grows in our country on sandy as well as on chalk or limestone soils; and Dr. Asa Gray, in his "Notes of a Botanical Excursion to the Mountains of Carolina," found that it had introduced itself in the extensive valley of Virginia most abundantly, along with another plant which is often its companion on the British landscape, the Wild Marjoram. "From the moment we entered the valley," says this writer, "we observed such immense quantities of *Échium vulgáre*, that we were no longer surprised at the doubt expressed by Dr. Pursh, whether it were really an introduced plant. This 'wild foreign weed,' as Darlington, agriculturally speaking, terms this showy plant, is occasionally seen along the road-side in the Northern States; but here, for the distance of more than a hundred miles, it has taken complete possession even of many cultivated fields, especially where the limestone approaches the surface, presenting a broad expanse of brilliant blue. It is surprising that the farmers should allow a biennial like this completely to overrun the land."

The French call this plant *La viperine*. It is the *Natterkopf* of the German; the *Slangekruid* of the Dutch; the *Echio* of the Italians, and the *Rumian* of the Russians. The Spaniards term it *Hierba de la vibora*. Many botanists have agreed with the remark of the late Mr. Loudon, that this is the most beautiful of all the lovely wild flowers which our country can boast. There will always, however, be a difference of opinion in matters like these; and so long as early memories can

find their sway in the heart of man, various flowers will be regarded as the loveliest. Some verses which Mary Isabella Tomkins has written for our volume, in praise of flowers, will, however, find a response in the breasts of all who love them:—

"A song of praise—in praise of flowers, from one who loves them well,
And joys to see them springing free in many a lonesome dell!
Sweet are they, sweet as childhood's smiles, welcome as boyhood's mirth,
The fairest, aye, and brightest things yet found upon the earth.

"I care not cultured flowers to seek; the simple and the mean,
The star-like daisy at my feet, the green grass stems between,
Is quite enough to stir my heart, and wake my humble powers,
To celebrate right gratefully God's goodly gift of flowers.

"They tell of one* who wander'd in a desert drear and lone,
Heart-sick and weary with long toil, uncheer'd by friendly tone;
With nought of comfort in his heart, nor hope he could descry,
And strong the evil thought within, to murmur and to die.

"When, lo, a tiny flower he saw, the blossom of a moss
That clothed a rock, flung carelessly his very path across:
Strange was the transport that it caused—his waken'd heart rose free,—
'The God who makes yon little flower, will surely care for me.'

"Oh flowers, pleasant flowers, your beauty and your grace
Art strives in vain to imitate, defeated in the race;
Fit playthings ye for childhood's years, fit gems for ladies' bowers,
Right gratefully, right lovingly, I sing the gift of flowers."

2. *E. violáceum* (Purple-flowered Viper's Bugloss).—*Stem* herbaceous, branched, downy, and having hairs

* Mungo Park.

rising from minute tubercles; *root-leaves* oblong, stalked, upper ones oblong, heart-shaped, somewhat clasping; spikes of *flowers* long; *stamens* scarcely longer than the corolla; *root* biennial. This handsome plant is very distinct from our common Viper's Bugloss. Its flowers, which are of rich violet blue, expand in July; their stamens are of unequal length, some being very much longer than others: the root is of reddish colour. The plant is abundant in the sandy soils of Jersey.

2. Pulmonária (Lungwort).

1. *P. officinális* (Common Lungwort).—*Root-leaves* egg-shaped, roundish, somewhat heart-shaped, stalked, upper leaves oblong and sessile *root* perennial. This is a rare plant of woods and thickets, and usually an outcast of gardens, though probably naturalized in some places. It is a common flower of the garden in spring, having its large leaves marked conspicuously with white spots. Its stem is about a foot high, and the whole plant is more or less covered with short hairs. The young buds are of pink colour, and in May they expand into the violet blue flowers, which, growing in a cluster somewhat resembling the Cowslip, induced our fathers to call the plant either Bugloss Cowslip, or Jerusalem Cowslip. The resemblance of the spotted leaf to the lungs when under disease, in all probability procured for the plant its familiar name of Lungwort, which is synonymous nearly throughout Europe, the French calling this herb *Pulmonaire;* the Spaniards, *Pulmonaria;* the Italians, *Polmonarie;* the Germans, *Lungen-kraut;* and the Dutch, *Longekruid.*

Mr. Loudon justly remarks, "It must not be inferred, from English names of this sort having been applied to plants, either that lungwort was ever used in this country for the lungs, or liverwort for the liver. The truth is, that the old herbalists, or translators of the classical writers upon natural history, made English names after their Latin terminations, without inquiring whether such continued to be applicable or not: their less-informed successors had no difficulty in finding those virtues in the plants which were indicated by the names of the translators." In this case the plant was, however, extolled and used in this country, and doubtless also on the continent, and it is still in villages believed to be good for the lungs, among the descendants of the "Simplers" of the olden times. Both the leaves and fruit of the plant yield, when newly gathered, a slight mucilage, destitute of odour, somewhat astringent in flavour, and believed to be a good demulcent. It is not, however, of any service, except as a soothing and cooling drink, its refrigerant properties being due to the nitre contained by this, as well as by the Borage, and other allied plants. So much of this salt is found in the lungwort, that when burnt it yields one-seventh of its weight in ashes. In the North of Europe it is commonly boiled for the table, and, according to John Ray, it was formerly thus used in Scotland. Some of the garden species of *Pulmonária* are very pretty. Such is the Virginian Lungwort, which in dry springs is a very ornamental plant, and which is by some writers considered but a variety of this species.

2. *P. angustifolia* (Narrow-leaved Lungwort).—*Leaves*

all lanceolate, upper ones sessile, lower ones stalked; *root* perennial. This is a rare plant also of woods and thickets, and apparently truly wild. It has been found in Hampshire, and is distinguished from the Common Lungwort by its taller stem, and its greater degree of down, as well as by the form of the leaves, which are also generally free from white spots. It is not, however, very distinct from the former plant. Its flowers are purple, and its buds pink, and it is in blossom from March to June.

3. Lithospérmum (Gromwell).

1. *L. officinále* (Common Gromwell).—*Stem* erect, very much branched; *leaves* broadly lanceolate, acute, nerved, rough above, with bristles closely pressed to the surface, hairy beneath; *tube* of the corolla as long as the calyx; *root* perennial. This plant would have little to interest the wanderer in the fields who noticed only the hue and fragrance of flowers. It grows on the rubbish heap, or on dry banks, often among the goose-foots, the dog's mercury, and other unattractive plants, and is in England very frequent, though rare in Scotland. The stem is a foot or a foot and a half high, the leaves very rough, the flowers small, scentless, and of a pale dingy yellow, expanding in June. But this dull-looking plant is very interesting to the botanist, from the singular stony covering of its seeds. These little nut-like fruits are at first of a dull greenish white, but afterwards become of a greyish colour, slightly tinged with brown, and are bright and glossy like porcelain, and so hard that it is difficult to break them. This membrane when



analyzed is found to contain a large quantity of flinty material, making the nut like a little stone. Hence it was called by early French writers *Herbe aux perles;* hence also its botanic and English names, the latter being from the Celtic *graun*, a seed, and *mil*, a stone. One or other species of the Gromwells is known pretty well throughout Europe. In France the plant is commonly called *Le Grenil;* the Spaniards term it *Lithosperma;* and both the Germans and Dutch have a reference to its stony fruits in their names of *Steinsame* and *Steenzaad.* In winter, when the green portion of the plant has died away, the woody part of the stem and branches remains, and is decked with the pearl-like seeds, presenting a most singular appearance.

2. *L. arvénse* (Corn Gromwell, or Bastard Alkanet).—*Stem* erect, branched; *leaves* lanceolate, acute, hairy; *calyx* a little shorter than the corolla; *root* annual. This species occurs in corn-fields and on waste ground, bearing white flowers in May and June. Its roots, which are of bright red colour, will impart that tint to linen or paper. The plant is a native of Europe, Asia, Africa, and some parts of America. The country girls in the north of Sweden give on festive days a brighter tint to their cheeks by a rouge made from its roots.

3. *L. púrpuro-cœrúleum* (Creeping or Purple Gromwell).—*Barren stems* prostrate; *leaves* lanceolate and acute; *tube* of the corolla much longer than the calyx; *root* perennial. This species is easily distinguished from the others by the large, handsome bright blue flowers, which in June and July grow on its erect flowering stems. It is a rare plant of chalky soils, found in

thickets near Greenhithe, in Kent, about Mary Church, Devon, and in the woods around Cheddar, in Somersetshire, where it grows plentifully over a large extent of soil. The nuts are highly polished, and of most pearly white hue, and somewhat wrinkled.

4. Merténsia (Smooth Gromwell).

1. *M. marítima* (Sea-side Mertensia).—*Stem* prostrate, branched; *leaves* egg-shaped, acute, rough, with hard dots, fleshy, and glaucous; *nuts* smooth; *root* perennial. This is a rare plant on the English coast, growing only on our western shores. It occurs occasionally also among the pebbles or sand of some parts of the Welsh coast, but the northern and western shores of Scotland are the places where it may be sought with most success. Dr. Johnston, in his "Flora of Berwick," says, "It grew in the time of Ray at Scammerston Mill, between the Salt-pans and Berwick, but we believe it will now be sought for in vain." The learned Sir Andrew Balfour had previously described it as existing there: there can be no doubt therefore that this beautiful plant really once adorned that spot. Dr. Walker, referring to this plant, says, that it is found flowering in July at Icolmkill, and that it is very frequent up the stony beach of most of the Western Islands, where it highly ornaments the shores, not only by its lovely flowers, but by the bright sea-green foliage. It was considered by Dillenius to be the most beautiful of all British flowers. It was observed by Linnæus to be sometimes annual, and in other cases perennial; but on the shores of the Hebrides it appears to be constantly biennial. Upon the coast of

Iceland also, where the plant occurs sometimes in great beauty, it is probably an annual plant, and in a warmer climate than that of Britain it would probably prove a perennial.

The flowers of this handsome Gromwell are in racemes of bright purplish blue colour, with small yellow raised dots in the throat of the corolla. The stems and foliage are wholly covered with whitish green powdery bloom, the leaves are fleshy and without bristles, and when the bloom is rubbed away the hard dots appear, which become whiter as the plant withers, and more apparent, and which in the herbarium are white, and hard like little stones on the dark, almost black, remains of the leaves. The flavour of the leaves resembles that of oysters.

5. Myosótis (Scorpion-grass).

* *Hairs on the calyx, all straight, and closely pressed to the surface.*

1. *M. palústris* (Creeping Water Scorpion-grass, or Forget-me-not).—*Calyx* cleft to about a third of its length, open when in fruit; *teeth* short, triangular; *limb* of the corolla flat, longer than the tube; *style* about as long as the calyx; *stem* angular; *leaves* somewhat blunt; *root* creeping. The pale but bright blue enamel-like flowers of this plant often stand up among the rich green leaves, which form masses on the borders of our rivers and streamlets, or grow partly under their crystal waters. Beautiful, indeed, are the little islets on the streams from June to August, when the grasses and

sedges seem so much the greener from the refreshing influences of the moisture, and bright flowers mingle among them. Mr. Noel well describes such places :—

"Swift dragon-flies with their gauzy wings
Flit glistening to and fro;
And murmuring hosts of moving things
O'er the waters gleam and glow:

"There are spots where nestle wild-flowers small,
With many a mingling gleam;
Where the broad Flag waves, and the Bullrush tall
Nods still to the thrusting stream.

"The Forget-me-not on the water's edge
Reveals her lovely hue;
Where the broken bank beneath the sedge
Is embroider'd with her blue."

The flowers of this plant are among the largest and most beautiful of the species, though they are not quite so large as those of the Rock Scorpion-grass. They have a yellow eye, and a small white ray at the base of each segment; the stem is about a foot high, and both that and the leaves are of uniform bright green, the stem being more or less downy, or sometimes quite smooth. The little buds, which before expansion are pink, and form a small coil at the top of the flower-stalk, gave to this and the rest of the genus the name of Scorpion-grass. The plant is as much prized all over the Continent as in this kingdom, and is generally regarded throughout Europe as the Forget-me-not. The Danes call it *Forgjaet mij ej*. Coleridge remarks of it, "It has the same name, *Vergissmein nicht*, all over the empire of Germany, and I believe in Denmark and Sweden," though several of its continental names, like ours, refer



to its coiled buds, or to the leaf which gives it the name of Mouse-ear. Thus, the French call it *G. Scorpionne*, or sometimes *Grémillet*, and *Oreille de Rat;* the Italians, *Orecchio di topa;* the Spaniards, *Miosota.* The German plants the flower about the tombs; the Frenchman portrays the cluster on paper, and writes beneath the bouquet, *Ne m'oubliez pas;* and though a wild flower in France, as in our country, yet little pots of its blossoms are often to be seen in the flower-markets of Paris, as well as small gathered bouquets, which are sold for the purpose of making the gift of love or friendship. The legend to which it owes its name, and given by Mills, in his "Origin of Chivalry," is well known, as is the different one furnished by Miss Strickland; yet our account of the flower would be incomplete were we to omit their repetition. According to the former writer, a knight was wandering by a stream with the lady whom he loved, the music of his words according well to the music of its tune. The maiden, glancing into the clear waters, saw the enamelled blue flowers, and wished to possess them. They must have grown at some distance from the shore; and, as it is said that woman loves best that which is most hard to come at, this circumstance may have added to her desire. The hapless man, plunging into the stream to gather them, was borne away by the current, but, making one last effort, he threw the flowers on the shore, exclaiming, "Forget me not!" and sunk beneath the waters. It would be hard to criticise too minutely the touching tale, which is current throughout Europe, and which Bishop Mant has pleasantly told in verse, and concluded with the following lines:—

"For the lady fair of the Knight so true
Still remember'd his hapless lot;
And she cherish'd the flower of brilliant hue,
And she braided her hair with the blossoms blue,
And she call'd it, 'Forget me not.'"

Miss Strickland's narrative of the origin of the name is almost as interesting as this, and we must confess to believing it more probable. Henry of Lancaster, she considers, was the first who gave to the Forget-me-not its emblematic and poetic meaning, by uniting it, at the period of his exile, on his collar of SS. with the initial letter of his *mot* or watchword, *Souveigne vous de moi*. Henry exchanged this token of good-will and remembrance with his hostess, who was at that time the wife of the Duke of Bretagne. Mrs. Abdy has written some verses for our volume, embodying this narrative:—

"Forget-me-not—thou flower to poets dear,
They ever place thee in a sylvan scene,
Amid the reeds that fringe the streamlets clear,
Or on smooth meadow banks of vernal green:
Few bear in mind that regal pride and power
Were once connected with this simple flower.

"For me, the page of History I scan,
And give to thee, sweet flower, distinction due;
Henry of Lancaster, a banish'd man,
Arises in his exile to my view,
Condemn'd by royal Richard's stern command
Awhile to quit his home and native land.

"Yet were his daring hopes unchanged, unquell'd;
Eager the ruler of our realm to be,
Counsel with friends and followers he held
In secrecy:—his token-flower was thee;
Link'd with a watchword, meet for court or cot,
The touching, deep appeal, Forget me not.

"Time pass'd; again he sought his native land,
Not as of old, oppress'd by Fortune's frown;
'Mid bold adherents, a devoted band,
He fought—and won the prize of England's crown;
A crown in part attain'd, sweet flower, through thee,
By thy mute spell, thy mystic agency.

"Those times are gone—and now the passing throng
Connect thee with the sighs of those who part,
With the sweet burden of a plaintive song,
With the soft breathings of a loving heart;
Nor deem that once thy lowly blossom met
The favour of a proud Plantagenet!

"Perchance 'tis better thus:—Earth's lofty things—
The laurel trophy gain'd in battle-strife,
The pomp of courts, the pageantry of kings—
Pervade not our familiar walks of life;
But Love and Truth diffuse their gentle sway
O'er the calm course of each returning day.

"I will not number thee with regal flowers,—
No, still remain in meek and humble grace,
A dweller in green vales and leafy bowers,
A silent witness of the fond embrace,
When friends or lovers part in some lone spot,
And sigh in faltering tones, 'Forget me not.'"

Coleridge laments that the flower should pass away so early, though it often lingers till August:—

"The tedded hay, the first-fruits of the soil,
The tedded hay and corn-sheaves in our fields,
Show Summer gone e'er come. The Foxglove tall
Sheds its loose purple bells, or in the gust,
Or when it bends beneath the up-springing lark,
Or mountain finch alighting. And the Rose,
In vain the darling of successful love,
Stands like some boasted beauty of past years,
The thorns remaining and the flowers all gone.

Nor can I find, amid my lonely walk
By rivulet or spring, or wet road-side,
That blue and bright-eyed flow'ret of the brook,
Hope's gentle gem! the sweet Forget-me-not."

Doubtless, as Professor Burnett remarks, the flower owes some of its popularity to its familiar name, but it probably owed that name, too, to its modest loveliness. Though it is never so handsome or luxuriant when in dry places, yet it will sometimes thrive for a time in gardens, and may be cultivated in pots. It is increased by separating the roots, and when planted on a moist free earth, it will blossom well, and may be used for a season to adorn our houses, or may serve for the gentle usages of sentiment.

In the Netherlands this Myosotis is often made into a syrup, and given as a remedy in pulmonary affections; but it can be of little service. It is said that a decoction of its juices hardens steel; and that if edged tools of that metal be made red-hot, and then quenched in the juice or decoction of this plant, and be repeated some hours, the steel will become so hard as even to cut iron or stone; but we have not been able to verify this statement.

2. *M. répens* (Creeping Water Scorpion-grass).—*Calyx* cleft to about the middle, open when in fruit; *teeth* narrow, lanceolate, and acute; *limb* of the corolla flat, longer than the tube; *style* as long as the calyx; *down* of the stem spreading; *stem* slightly angular; *leaves* somewhat acute; *root* perennial. This plant, which grows in boggy places, is by some botanists thought to be not truly distinct from the last. It has pale-blue flowers in leafy clusters, from June to August.

3. *M. cæspitósa* (Tufted Water Scorpion-grass).—*Calyx* open when in fruit; *teeth* narrow, lanceolate, bluntish; *limb* of the corolla equalling the tube; *stem* round, with its down closely pressed to the surface; *leaves* usually blunt; *root* fibrous, annual or biennial. This plant occurs in many watery places, bearing in May and June clusters of bright blue flowers, which vary in size, but are usually smaller than in the preceding species. The name for this species is not a good one; for though it grows in a crowded manner, it is never tufted.

** *Hairs on the calyx tube spreading.*

4. *M. alpéstris* (Rock Scorpion-grass).—*Calyx* deeply 5-cleft, open when in fruit; *limb* of the corolla flat, longer than the tube; *leaves* oblong, lanceolate, those of the root on long stalks; *root* perennial. This beautiful species is a mountain plant, growing at a great elevation on the Breadalbane mountains. Mr. Backhouse also found it in great abundance on the high limestone at the east end of Mickle Fell in Teesdale, flowering in June. It has large handsome leaves, and most lovely large flowers of pale but bright blue, which Mr. Babington says are sweet-scented in the evening. They are the handsomest of all our native species, and grow at first in such dense clusters as almost to form heads, though they afterwards become racemed. They expand in August and September, on a stem about half a foot high. Many writers consider this species an Alpine form of *M. sylvática.*

5. *M. sylvática* (Upright Wood Scorpion-grass).—*Calyx* with spreading curved bristles, deeply 5-cleft,

divided more than half way down, closed when in fruit; *limb* of the corolla flat, longer than the tube; *style* nearly as long as the calyx; *leaves* oblong, lanceolate, stalks of lower leaves dilated; *root* perennial. This is a rare species, of dry, shady places, chiefly in the North of England and Lowlands of Scotland, though found occasionally in Kent and other counties. It has large, handsome blue flowers, from May to August.

6. *M. arvénsis* (Field Scorpion-grass).—*Calyx* half 5-cleft, closed when in fruit, with curved bristles; *limb* of the corolla concave, equalling the tube; *style* very short; *flowers* on short stalks in racemes; *leaves* oblong, acute, lower ones somewhat egg-shaped and blunt; *root* annual or biennial. This is the most frequent of all the species, and, like all the others, it has the hairy leaves which suggested the name of the genus. It is in blossom from June till September, and its brilliant small sapphire blossoms are often given in country places in little bouquets, by those who consider it the Forget-me-not. The stem varies from six inches to a foot and a half in height, and the whole plant is rough with spreading bristles. In very shady places its flowers are sometimes much larger: thus it is often mistaken for *M. sylvática*. It is, like the other species, somewhat mucilaginous and astringent; and in times when these plants were used either for pulmonary affections or for external emollient applications, this species, as being the most common, was very generally selected for use in inflammatory disorders. Country people in Kent still make a decoction of its leaves for curing coughs.

7. *M. collína* (Early Field Scorpion-grass).—*Calyx*

covered with spreading, hooked bristles, open when in fruit; *limb* of the corolla concave, shorter than the tube; *leaves* oblong and blunt, lower ones inversely egg-shaped, their hairs straight; *root* annual.

This pretty but small plant is not uncommon in April and May, on dry banks, tops of cottages and walls, but is not large enough to attract the notice of any who are not observant of wild flowers. The whole plant rarely exceeds three inches in length; the stems spread almost on the ground, and terminate in little clusters, with one solitary, distant flower in the axil of the upper leaf. The flowers are of uniform blue, the buds never tinged, as in most of the Scorpion grasses, with pink. When the flowers first appear they are closely nestled among the leaves, but the stem shortly lengthens into clusters, and before June the plant has withered away. Mr. Bowman has remarked, that the flowers do not expand till, by the uncurling of the raceme, they are brought into a perpendicular position, but continue open till the next two or three above them are expanded.

8. *M. versícolor* (Yellow and Blue Scorpion-grass).—*Calyx* with spreading, curved bristles, closed when in fruit; *cluster* on a long, leafless stalk; *stalk* of the fruit erect; *limb* of the corolla shorter than the tube; *leaves* narrow, oblong, somewhat acute, upper ones frequently opposite; *root* annual This plant, which is not uncommon on banks and fields, often grows on a more moist soil than the last species, though sometimes, like it, on dry sunny places. It is a very distinct species, varying in height according to the soil, from three to six inches, and blossoming in April and June. The stem is

leafy below and naked above, and its little cluster is coiled up very closely while in bud, opening into most lovely little flowers, which are very singular as to colour, as we have seen the plant having open at the same time, some corollas of bright blue, and others perfectly yellow or crimson.

6. Anchúsa (Alkanet).

1. *A. officinális* (Common Alkanet).—*Leaves* lanceolate, rough and hairy; *flowers* in one-sided spikes; *bracts* egg-shaped and pointed; *calyx* segments longer than the tube. This is a rare plant of waste grounds. Its stem is one or two feet in height, and its deep purple flowers expand in June and July. Though so unfrequent in our country, this Alkanet shows its richly tinted flowers in abundance in the southern parts of France, in Germany, and Switzerland, where it is to be seen everywhere, on uncultivated fields, road-sides, and old walls. A large quantity of gum is contained by the roots, which when boiled yield a demulcent medicine, once very popular both in this country and on the continent.

The roots of most of the Alkanets furnish some slight degree of red colouring matter, but this abounds in the roots of the species called *A. tinctória*, which is the Common Alkanet, or Orcanette, used by druggists; and the red colour obtained from them is employed for giving its hue to lip-salves, oil and wax. It is, too, commonly extracted for imparting a colour to wine sold under the name of Port wine; and also in staining corks. This species is a native of Italy, Spain, and the


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south of France, and is also cultivated in the latter country for various uses. Among the Romans the roots of the Alkanet were in great request in staining wool, previously to giving it that rich purple hue so prized in ancient Rome. The colouring matter of the Alkanets has been called by some chemists *pseudo-alkannin*, and though found in great abundance in the external part of the root, is almost absent from the internal portion. Beckmann says of it: "A solution of spermaceti in sulphureous ether, tinged with Alkanet root, which solidifies at 50° F., and melts and boils with the heat of the hand, is supposed to be the substance which is used at Naples when the blood of St. Januarius melts spontaneously, and boils over the vessel which contains it." The Common Alkanet is frequent in our gardens, and probably in the few places in which it grows apparently wild, it originally escaped from cultivation.

The bristles which cover the stem and leaves of our Common Alkanet are far more stiff and sharp in some of the other species. They arise from a minute stony base, which, by the aid of a powerful microscope, is seen to consist of a cluster of very hard cells of cellular tissue. These rough tubercles become in all the species more apparent when the plant grows older.

2. *A. sempervírens* (Evergreen Alkanet).—*Leaves* egg-shaped, lower ones upon long stalks, flower-stalks axillary; *flowers* salver-shaped, in short spikes; *root* perennial. This is a stout bristly plant, about one or two feet high. Its leaves are of rich deep green colour, and the flowers, which expand in May and June, are large, and of an intense azure blue. It is a rare plant, some-

times found among ruins and by road-sides, where it doubtless in many cases originated from some neighbouring garden; but though generally considered as a wild plant, it appears to be truly naturalized in some parts of Yorkshire, and it is by no means unfrequent in hedges in Devonshire; hence some botanists think it may possibly be native to these two counties. The French call the Alkanet, *La Buglosse;* the Germans, *Ochsenzung;* the Dutch *Ossetong;* the Italians, *Ancusa.*

7. Lycopsis (Bugloss).

1. *L. arvénsis* (Small Bugloss).—*Leaves* lanceolate, toothed and wavy, very bristly; *calyx* erect while in flower; *root* annual. The leaves of this plant are of the richest dark green hue, but so rough and hairy that the gatherer of wild flowers hesitates ere he takes it for his nosegay. The hairs or bristles stand on white hard tubercles, very apparent in the older leaves, and the lower leaves are lengthened into stalks. The flowers, which grow in curved clusters, expand in June and July, are of the most brilliant blue, very small for the size of the foliage, and differing little from those of the Alkanet, except in the remarkable circumstance of having the tube of the corolla bent. The French call this plant *Lycopside;* the Germans, *Krummhals;* the Portuguese, *Liden oxetunge;* and the Dutch, *Wolfschyn.* The latter, as well as the scientific name, has a reference to the fancied resemblance of this flower to the face or eye of a wolf; but he must have had a very active fancy to whose mind the resemblance was first suggested.

8. Sýmphytum (Comfrey).

1. *S. officinále* (Common Comfrey).—*Leaves* egg-shaped and lanceolate, tapering at the base, and running down the stem; *flowers* drooping, in two-forked clusters; *root* perennial. This plant, which is very common on the borders of rivers, is not likely to be overlooked by any rambler there. Not that the flowers of the Comfrey are at all showy, but the stem is two or three feet high, and branched, and it has large strongly-veined leaves, which run down into winged appendages to the stem. From May to August, clusters of white, purple, pinkish, or greenish drooping bells may be seen upon the plant, but they are not to be gathered unwarily, on account of the bristles which beset both stem and foliage. The plant is often abundant on the river's brink, for its brittle root extends itself widely, and is very tenacious of life, every little remnant of it sending up a young shoot above the soil. This circumstance renders the plant very troublesome in a garden. It is now chiefly to be found in the cottage garden, but it was very generally cultivated in former days, on account of its supposed vulnerary qualities, a property to which we find an allusion in several of its Continental names, as well as in our old one of Great Consound. The French call it *Consoude;* the Italians, *Consolida;* the Spanish, *Consuelda major;* the Germans, *Beinwell*, and the Dutch, *Smeerwortel.* All parts of the plant, especially the roots, contain a large quantity of mucilage, so that the Comfrey is fitted for all the purposes to which we should apply the Marsh Mallow; every part, too, is nutritive, and

the roots have a sweetish flavour. The decoction of this herb was formerly used not only for "griefes of the lungs," but for various other maladies, and it has also been used by dyers to extract the colouring matter from gum lac. The leaves are said by Dr. George Johnston to give a grateful flavour to cakes and panada, and to be, when boiled, an excellent vegetable: they should be gathered while young, when they form a substitute for spinach; the young shoots, blanched by being forced through heaps of earth, may be eaten like asparagus, which they resemble in flavour, though they are not so delicate as that vegetable.

It seems probable from recent experiments that the Comfrey may prove serviceable as food for cattle. Professor James Buckman, who has made many valuable observations on grasses and other plants, especially serviceable to the farmer, observes that, about four or five years since, the Prickly Comfrey of Caucasus (*Sýmphytum aspérrimum*) was greatly recommended for cultivation, as the green food of cattle, and that it soon grows to a great height in the garden. He adds, that while this plant was growing, he used sometimes to amuse himself by taking branches of it into the meadows to the cows, and that it was highly curious to see how immediately they surrounded him, and how eagerly they ate the plants; and Dr. Voelcker, who analysed this Comfrey, both in its fresh and dried states, declared it to be his opinion that it was very nutritious to these animals.

Professor Buckman says, "On introducing the *S. aspérrimum* to my botanical garden, it struck me that,

notwithstanding the latter is known as a Caucasian species, which was introduced as a garden plant on account of the beautiful colour of its flower-bells, yet that the former scarcely presented those marked differences which should belong to species. I therefore determined to plant some specimens of *S. officinále*, concluding that if I could get a plant from the waterside to grow in an upland district, remote from water, so great a change of circumstance would, at least, exert great influence upon its growth. Accordingly, a plant with white bells was introduced into the Botanic garden, which at once grew abundantly, and the following year was subdivided into several sets, which flowered; but this season the flowers became stained with a dull reddish blue tinge, and each season great changes have gone on in this plant; so that, in fact, in the summer of 1853, it was scarcely distinguishable from the Prickly Comfrey." There seems very little reason to doubt the identity of the two plants, when under similar circumstances; they are ascertained, too, to have exactly the same properties; and as the wild Comfrey seems, when brought from its native river side, to improve and not to degenerate under culture, it may some day, as Professor Buckman believes, become a valuable addition to the plants now used as fodder.

2. *S. tuberósum* (Tuberous Comfrey).—*Stem* scarcely branched; *leaves* oblong, narrowed below; *stem-leaves* lanceolate, upper ones generally in pairs, large, and running slightly down the stem; *root* perennial. This species is common in Scotland, on the borders of rivers, and in shady woods, but is rare in England. It is

a smaller and more slender plant than the preceding, and has yellowish white flowers in June and July.

9. Borago (Borage).

1. *B. officinális* (Common Borage).—*Stem-leaves* tapering below into stalks, eared at the base; *root-leaves* inversely egg-shaped, narrowed below; whole plant rough with whitish tubercled hairs; *root* biennial. The Borage is a very handsome plant, when, from June to September, its brilliant blue flowers form terminal clusters. Its stem is about two feet high; both that and the flower-stalks often tinged with red, and, like the leaves, it is rough, with sharp tubercled bristles. The flowers are large, their azure petals varied by the prominent purplish black anthers. The Borage may often be found near houses and in waste places, doubtless having in many cases escaped from the garden; but although not indigenous, it seems quite naturalized on some spots. It is an old garden flower, and had a place on the bed, both on account of its blossoms and for its various uses. Bishop Mant says—

> "Or would you deign—as who that woos
> Boon Nature's favours would refuse?—
> The dusty pathway's side to try,
> Or rubbish heap? With bright blue eye
> Your pains the Bugloss will repay,
> And, famed for driving care away,
> Dipp'd in a broader, brighter blue,
> Rough Borage."

But it would need the pen of one of those undoubting writers, the herbalists, properly to set forth the virtues for which this plant was renowned. The adage,

> "I, Borage, always bring courage,"



was received in all good faith by our ancestors, who deemed this plant one of the four "cordial flowers," which most deserved their esteem for cheering the spirits; the others being the Rose, Violet, and Alkanet. They put the Borage blossoms and young shoots in soups, pickled the tender leaves, or ate them in salad; candied the bright azure petals into sweetmeats; mingled them with wine, water, lemon, and sugar, into a beverage, yet liked by some, and still called by its old name of "cool tankard;" and having ate or drunk the borage, went forth to work or to warfare with good hope of success. Bacon, referring to this plant, says, "If the leaf of Burrage be infused long it yieldeth forth but a raw substance of no virtue: therefore suppose if in the must of wine or wort of beer, while it worketh, before it be tunned, the Burrage stay a short time, and be often changed with fresh, it will make a sovereign drink for melancholy passion." Pliny had long before said, that wine in which the plant was infused produced very exhilarating effects; and many writers think that the word *borago* is a corruption of *corago;* from *cor*, the heart, and *ago*, to bring. Whether the name of Borago was, however, originally applied to this plant, may be doubted. Beckmann, who has a learned disquisition on the subject, after remarking that since the fourteenth or fifteenth century it had been sown for its various uses in cooking, says, "This plant was not known to the ancients; for the conjecture that it is what they call *buglossum* is not very probable. As far as I have been able to learn, Nicholas Myrepsus, who lived in the beginning of the fourteenth century, is the first who uses the Greek name

which certainly means *borago*. But who knows whence this writer, who introduces in his works a great many new, inexplicable names, some of them formed from the Greek, Latin, or Italian, obtained that appellation? Some of the old botanists have conjectured that it is derived from the word *corago*, which Apuleius, whose period is uncertain, gives as a synonym of *buglossum*. Some think that the reading of Apuleius ought to be *borago*, and others assert that *corago* is the true name, and arose from the quality which the plant has of strengthening the heart; consequently, we ought properly to read *corago*, and not *borago*. It is probable that our forefathers, under the impression that their Borage was the Buglossum of the ancients, and therefore had the property of strengthening the heart, threw the flowers into wine, that the spirits might by these means be more enlivened. Our Borage is certainly a foreign plant, and Cæsalpinus says that it was brought from other countries into Italy. Linnæus positively states that it first came from Aleppo; but I have not yet been able to find on what authority this assertion was founded. At present, at least in the German cookery, Borage is not used."

The flowers of the Borage turn red immediately by the application of hot vinegar. The stems contain nitre, and the whole plant readily gives its flavour even to cold water. The French call the plant *Bourrache;* the Germans, *Borago;* the Dutch, *Bernagie;* the Italians, *Borragine;* and the Spaniards, *Borraja*.

10. Asperúgo (Madwort).

1. *A. procúmbens* (German Madwort).—*Stems* angular, prostrate, rough with prickles; *leaves* oblong, somewhat lanceolate; lower ones stalked. This little prostrate annual plant is less frequent in Britain than in most European countries; for though bearing the name of German Madwort, it is found more or less all over Europe, from Lapland to the Mediterranean. It grows on waste places, chiefly in the north of this kingdom, as in various parts of Durham and Northumberland; but it usually occurs very sparingly. It is a peculiarly rough plant, its angular stems being thickly set with hooked prickles. Sometimes the leaves are solitary, or they are opposite, or they grow in little tufts; its solitary, small, but bright flowers occurring in June and July, and peeping from the axils of the upper leaves. From its name of Madwort we might infer that it was a fancied remedy for mental disease; it is also one of several of our wild flowers called in some country places Bugloss. The French call it *Porte-feuille;* the Germans term it *Scharfkraut;* the Dutch, *Scherpkruid;* the Italians, *Asperugine.* It is the *Rapelle* of the Danes, and the *Ormögen* of the Swedes.

11. Cynoglóssum (Hound's-tongue).

1. *C. officinále* (Common Hound's-tongue).—Lower *leaves* elliptical, stalked, covered with down; upper ones lanceolate, narrowing below, somewhat heart-shaped, half clasping; *flowers* in racemes, without bracts; *root* biennial. The flowers of the Hound's-tongue are of most peculiar tint—a tint showed by no other native blossom. They expand from June to August, and are of dull,

reddish purple, of the shade commonly called claret colour; the petals veined. The fruits which succeed them are very singular in form, very rough; the nuts are flattened in front, and surrounded by a thickened prominent margin, and the prickles so firm and thick, that they are like burs. The whole plant has a strong and disagreeable odour, like that of mice, a circumstance which has not escaped the notice of a poet who thus describes our summer flowers :—

"All up and down the cottage walls the Honeysuckle clambers,
And down the chalk-white cliffs the Bugloss decks the chambers
Of insects breeding in the rock; whilst where clear streamlets flow,
The Water Avens' brilliant blossoms make a gallant show;
And by the hedge the dusk-brown bloom of Hound's-tongue scatters free
A mouselike incense, that repels the honey-seeking bee;
Which also leaves the Poppy, and its flower of showy red,
For the wholesome Mallow's lilac buds, by every road-side spread."

We find that this flower has, in several European countries, a name synonymous with ours. It is the *Hundszunge* of the Germans, and the *Hondstong* of the Dutch; while the Portuguese call it *Lingua de Cao;* the Italians term it *Cinoglossa*, and the French *Cynoglosse*. The whole plant is very soft and downy, of an unvarying greyish green colour, and the form and texture of the leaf must have originated its familiar names. Mizaldus said that if a portion of the plant were laid beneath the feet, it would prevent dogs from barking at the wearer; but so far as we have been able to discover, dogs seem quite unconscious of its presence. It was formerly thought efficacious in many disorders, and the leaves were especially directed to be applied to the wound

made by the teeth of a mad dog. An old writer, a physician and herbalist, said of the plant, "It is called Hound's-tongue because it ties the tongues of hounds; whether true or not I never tried; yet I cured the biting of a mad dog with this only medicine." A decoction of the roots, as well as an outward application of them, is recommended by some modern physicians in cases of enlargement of the joints. Professor Lindley remarks that some writers consider the leaves narcotic. They are somewhat bitter in flavour, and produce a fat, strongly scented oil. Dr. Joseph Hooker, who found two species of the Cynoglossum on the Himalaya mountains, observed that one kind was there used as a pot-herb.

Our common Hound's-tongue is sometimes found in a less downy condition than ordinary. It is a short, herbaceous plant, with a stem about one or two feet high. It grows by road-sides and on waste places; and though not rare, yet it is not very frequent.

2. *C. sylváticum* (Green-leaved Hound's-tongue).—*Stem leaves* lanceolate, broad at the base, sessile, slightly hairy, and rough, especially beneath; upper ones slightly narrowed below, clasping; *root leaves* on long stalks; *root* biennial. This species may easily be distinguished from the last by its bright-tinted foliage, which is more or less shining, and free from soft down, though often very rough. It is besides of different form. The flowers are of reddish colour, changing to blue, and the seeds are without the margin, which is so prominent in those of the other species. The Green-leaved Hound's-tongue is a rare plant, found in shady situations by road-sides, in the middle and east of England, and in a few places of

Scotland and Ireland. Its flowers are in racemes, without bracts, expanding in June and July.

Order LIX. SOLANEÆ.—THE NIGHTSHADE TRIBE.

Calyx 5-, rarely 4-cleft, inferior; *corolla* of one petal, 5-, or rarely 4-cleft, equal or nearly so, plaited when in bud; *stamens* the same in number as the divisions of the corolla, and alternate with them; *anthers* bursting lengthwise, or opening by pores; *ovary* 1-, 2-, or 4-celled; *style* 1; *stigma* rarely lobed; *fruit* a 1-, 2-, or 4-celled capsule or berry; *seeds* numerous. This large and important Order consists of herbs or shrubs. Linnæus gave to it the name of Luridæ, from the dull, lurid appearance of the flowers of many of the plants, which he regarded as indicative of their noxious properties. They are acrid and narcotic, several most deadly poisons being found among them, as the Nightshade, Mandrake, Thorn-apple, and others; but several, as the Love-apple and Capsicum, which furnish the Cayenne pepper, are useful as condiments; and in this Order is included that most important article of food, the Potato. The species are more abundant in the tropics than elsewhere; but the plants inhabit most regions of the globe except the coldest.

1. Datúra (Thorn-apple).—*Calyx* tubular, falling early; *corolla* funnel-shaped, angular, plaited; *anthers* opening lengthwise; *stigma* 2-lobed; *capsule* half 4-celled, 4-valved. Name from its Arabic appellation, *Tatórah.*

2. Hyoscýamus (Henbane).—*Corolla* funnel-shaped, with 5 unequal lobes; *capsule* 2-celled, closed by a lid. Name from the Greek *hys, hyos,* a hog, and *cyamos,* a bean, from the form of the fruit.

3. Solánum (Nightshade).—*Corolla* wheel-shaped, 5-cleft, the segments spreading or reflexed; *anthers* opening by two pores at the summit; berry roundish, with two or more cells. Name of doubtful origin.

4. Átropa (Dwale).—*Corolla* bell-shaped, with 5 equal lobes; *stamens* distant; *berry* of 2 cells. Name from *Atropos,* one of the Fates, in allusion to its deadly properties.

1. Datúra (Thorn Apple).

1. *D. Stramónium* (Common Thorn-apple).—Herbaceous, *leaves* egg-shaped, unequally and deeply cut, smooth; *capsule* erect, egg-shaped and spiny; *root* annual. This plant, which is found, though rarely, on waste ground and rubbish heaps, is not truly wild. Its flowers are trumpet-shaped, large, white, and erect, expanding from July to October. They are succeeded by the large prickly seed-vessel, which is curiously formed, being 2-celled, with each cell again divided by a partition; so that the lower part seems 4-celled. Though naturalized in Britain, the plant is a native of America, and is in Virginia called Fire-weed, because it springs up readily in spots cleared by fire. It is also called St. James'-weed, from the abundance of its growth near Jamestown; and the new settlers in that land having eaten it, experienced such extraordinary effects, that one of its common names indicates it as a plant peculiarly belonging to the Prince of Darkness, the

originator of all evil. According to the accounts given by the old historians of Virginia, the new-comers finding this plant in spring, gathered some of the young and tender shoots, which they boiled for their meat; and some of the soldiers sent to quell the disturbances there, ate plentifully of the vegetable. It seems to have produced a most vivacious sort of intoxication, in which the men who ate it committed the most wild extravagances; and, according to the old historians, the influence of the plant remained during eleven days, while upon their recovery, the victims of this delirium had forgotten all that had occurred. The love of the marvellous, so prevalent in those days, doubtless led to an exaggerated statement of these effects; but the plant is now well known to be a most powerful narcotic, which, previously to causing stupor, induces a state of wild delirium, in which the person who takes it laughs and talks incessantly. The hill tribes of India use the plant as a narcotic, and in some of the mountain villages the seeds are commonly infused in spirituous liquors, for the purpose of increasing their intoxicating properties. The narcotic and poisonous principles of the seeds have long been known and used for criminal purposes in some parts of the Continent, and they are said to be thus used in poisoning by the natives of the Indian Archipelago. In this country these seeds are rarely employed, and we should see nothing of their effects, did it not sometimes happen that children taste them accidentally, when the spectral illusions more or less wild are induced. The peculiar principle of the Thorn-apple is called by chemists *daturin*. It exists


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more or less in all the species, and its general action on the system is much like that of Henbane; when taken internally it strongly dilates the pupil of the eye.

Professor Johnston, in his remarks on the "Narcotics we indulge in," thus refers to this plant: "When the Thorn-apple is smoked, as it is sometimes done in this country, by persons afflicted with certain forms of spasmodic asthma, an empyreumatic oil is produced, similar to that which is formed during the burning of tobacco in the pipe of the smoker. Like the empyreumatic oil of tobacco, also, it is very poisonous, so that the effect produced by the smoke of the Thorn-apple upon the system is made up of the joint influence of this poisonous oil and that of the poisonous *daturin*, which may come away with the smoke. Hence the smoking of Thorn-apple, as experience has proved, is by no means unattended with danger."

The Red Thorn-apple (*D. sanguinea*), which grows on the slopes of the valleys of the Andes, is called by the Indians *Yerba de huaca*, or *Borachero*. The Indians prepare a narcotic drink from this plant, and Von Tschudi describes its effects, which are doubtless very similar to those which would follow a similar use of the common species. Shortly after taking the beverage, the Indian fell into a heavy stupor, sate with his eyes vacantly fixed on the ground, his mouth convulsively closed, and his nostrils dilated. In a short time the eyes rolled wildly, foam issued from his mouth, and at length he slept for several hours. He then awoke, and a crowd of eager listeners gathered round him, as he related the details of his late vision, during which he

affirmed he had had an interview with the spirits of his forefathers.

Those human scourges, the Poisoners of India, now nearly extinct, used a species of Thorn-apple in their cruel practices. "The Poisoners," says Dr. Joseph Hooker, "all belong to one caste, of Pasie, or dealers in toddy; they go singly or in gangs, haunting the travellers' resting-places, where they drop half a rupee weight of pounded or whole Datura seeds into his food, producing a twenty-four hours' intoxication, during which he is robbed, and left to recover, or sink under the stupefying effects of the narcotic." One of them told this traveller that the Datura seed is gathered without ceremony, and at any time, place, or age of the plant. He was "a dirty, ill-conditioned fellow."

The seeds of the Thorn-apple are believed by some to have been used by the priests of the Delphic temple, to procure the wild and phrensied utterances of the oracle. According to Professor Lindley, they were certainly used for a similar purpose in the Temple of the Sun at Sagomossa, which lies among the mountains of the Andes.

The French call the Thorn-apple *Stramonie;* the Germans, *Stechapfel;* the Dutch, *Doornappel;* the Italians, *Stramonia;* the Spaniards, *Estramonio.* *Stramonium* is from the Greek word signifying Mad-apple, and *Metel* or *Methel* is an old Arabic name for the plant, expressive of its narcotic effects. The Chinese are forbidden by law from mingling this plant with their fermented liquors.

The Thorn-apple, naturalized in some degree in England, was introduced (according to Gerarde) into

this country from Constantinople, about 1597; but Miller says that we probably received it from Italy or Spain. Gerarde mentions that a salve for burns and scalds was made of its leaves; and he tells us that the plant was by him "dispersed through this land." Kalm says of the Thorn-apple, that this and a species of *Phytolacca* are the worst weeds in America; and Professor Martin remarks, that in the earth brought around plants from various parts of that extensive country, we are sure to have the Thorn-apple spring up. The flowers are very graceful and delicate, and are shielded during night by the leaves which surround them, and which rise at that time and enclose them. The whole plant has a strong odour of bean meal, and every part is poisonous. A variety of our common species has been found by Dr. Bromfield at Southsea, with purple stems and flowers. Some very handsome species adorn our gardens, such as the Egyptian Purple Thorn-apple, which has a fine polished purple stalk, varied with small spots or lines, and whose purple blossoms glisten within with a shining surface like satin.

2. Hyoscýamus (Henbane).

1. *H. níger* (Common Henbane).—*Leaves* clasping and cut; *stem* much branched; *flowers* nearly sessile, axillary; *root* annual or biennial. The flower and the dull foliage of the Henbane would readily suggest to any observant person the probability of the poisonous nature of the plant. Growing on a rounded branched stem, two or three feet high, which, as well as the foliage, is covered with long, slender, clammy hairs, the large

flowers are arranged in one-sided clusters. They are dingy yellow, marked usually, but not always, with lurid purplish brown veins, and with a purple eye in the centre, expanding from June to August, and diffusing a most disagreeable odour. The plant grows on waste lands, sometimes on the heap of refuse near a dwelling, sometimes among the lowly graves of the churchyard, now and then on some bank by the wayside, or on some tall sea-cliffs. The two-celled capsules enclosed in the calyx are covered by a lid which falls off when the seeds are ripe, and we may sometimes see them in winter macerated by rain and dew, and with little left save a network of woody fibres. The capsule is shaped like a bean, and as swine are said to eat the plant, it is well known by the name of Hog's bean, and is also sometimes called Black Henbane. The French term it *Jusquiame;* the Germans, *Bilsenkraut;* the Dutch, *Bilsenskruid;* the Italians, *Guisquiamo;* the Spaniards, *Beleno.*

The Henbane is powerfully narcotic, and when taken in any quantity is poisonous to man and to most animals, though both goats and sheep will take a small portion of its foliage, and swine eat it with impunity. No other animals will touch it, and very few of the insect race ever approach its flower or leaf for food. The foliage is the part used in the preparation of the valuable medicinal narcotic which is procured from this plant, and so often administered to the worn and sleepless sufferer; but the seeds are also used. Lightfoot mentions that a man who ate a few of these seeds became insensible and lost the use of his limbs; but they do not seem at all times and with all constitutions to prove so

poisonous. Sir J. E. Smith and Professor Martyn both state that they have eaten them without injury, and country children so often play with these seeds, that if they were in all cases so noxious, we should certainly more frequently hear of serious consequences. The leaves are often smoked in villages to allay toothache, but the practice is an unsafe one. Anodyne necklaces, made of pieces of the root rounded and strung together, are sometimes worn around the necks of infants to facilitate the process of dentition. Pallas mentions that the seeds of the Purple-flowered Siberian Henbane make, when roasted and infused, an excellent substitute for coffee; and the seeds of another species (*H. Datora*) are also roasted for the same purpose by the Arabs, though in this case the beverage is intoxicating.

3. Solánum (Nightshade).

S. Dulcamára (Woody Nightshade, or Bittersweet).—*Stem* shrubby; *leaves* egg-shaped and heart-shaped; *upper leaves* halberd-shaped and eared; *flowers* in drooping clusters; *root* perennial. This plant, which is in some cases quite smooth, in others more or less hairy, is to be found in many of our hedges, especially such as are near streams. The glistering scarlet berries which hang on its boughs, are, during October and November, far more conspicuous than the flowers of June and July. The blossoms are lurid purple, with two green spots at the base of each segment, and the yellow anthers are united into a pointed cone. The clusters hang opposite to the leaves, and the latter are dull green; while the straggling woody stems grow among the bushes, and

are often eight or ten feet in length. The plant has always been used medicinally in villages, and the external application of a decoction of its leaves has been employed with good effect; but as stem, leaves, and fruit all contain poison, its administration internally except by qualified persons is highly dangerous. The plant is in some places called Felon-wood, not improbably from some old use as a cure of whitlows, as these were formerly called felons. The roots have the odour of the potato, and are, when first chewed, bitter, but leave afterwards a taste of sweetness on the tongue; hence the specific name of the plant. The French call this Nightshade *Morelle;* the Germans, *Schwarze nachtschatten;* the Dutch, *Zwarte nagtschade;* the Italians, *Solatro nero.* Bytterswete is a very old English name for this plant.

2. *S. nígrum* (Black Nightshade).—*Stem* herbaceous; *leaves* egg-shaped, wavy at the edge, and bluntly toothed; *flowers* drooping; *root* annual. This species is named from the round berries, which, when ripe, are of a black hue. The flowers have white petals and yellow anthers, and may be seen on the plant from June to November. This Nightshade often occurs as a weed in gardens, and it is not uncommon on wayside banks, sea-beaches, and other uncultivated spots. Mr. Borrer found in Sussex a variety with the flowers white, but in which the berries were green. The whole plant is fetid and narcotic, and the fruits, though they have been used medicinally, possess, in our country at least, some poisonous properties. This plant, however, seems to be in this respect much influenced by climate; for Mr. Backhouse tells us that in Norfolk Island the convicts

commonly gather these berries and cook them. Nor is it only in that climate that they seem to lose their virulence. In the "Bulletin des Naturalistes de Moscou," it is stated that the berries of the *Solanum nigrum* are, in the Ukraine, destitute of the narcotic principle, and as they ripen become sweet and edible. Czerniaiew, the Russian writer who mentions this circumstance, endeavours to account for it by the high summer temperature of the Ukraine.

4. Átropa (Deadly Nightshade).

1. *A. Belladónna* (Dwale, or Deadly Nightshade).—*Stem* herbaceous; *leaves* egg-shaped, undivided; *flowers* axillary, on short stalks; *root* perennial. This is a rare plant, and, as its name imports, is so poisonous that we cannot wish it were more frequent. Its stem is round, branched, slightly downy, and two or three feet high, bearing from June to August drooping bells of a dark lurid purple hue, which have a faint but unpleasant odour. The leaves are large, sometimes a foot long, and four or five inches broad, and the whole herb has a dull gloomy appearance. Not one of our British plants is so deadly as this, for its black shining juicy fruits, like small cherries, are highly poisonous, and produce fatal effects even if a very small portion be taken. The calyx attached to these berries readily distinguishes them from cherries, but fatal mistakes have occurred in their use by the ignorant. Even within the last few years a man was prosecuted for selling these berries in a basket about London, and though it appeared that he was unacquainted with the dangerous nature of the fruits, yet several

persons suffered in consequence. Children have sometimes died through eating these sweet berries, and doubtless accidents would be more frequent but for the rareness of the plant, which has probably been in a measure extirpated by botanists and herbalists of former years. Its chief place of growth is in old quarries, or among ruins; but it is sometimes to be found in woods and hedges. The old name of the plant, Dwale, is apparently a corruption of the French *deuil*, mourning; and early English botanists called it Banewort, Sleeping Nightshade or Raging Nightshade, while its old French name was *Morelle mortelle*. Nor is the poison confined to the berries. A few grains of the dried leaves, or a small dose of the infusion of these leaves, will shortly cause dryness of the throat, and a most extravagant delirium, often accompanied by uncontrollable fits of laughter, sometimes with incessant talking, but in some instances by a total loss of the voice. The state of mind induced by taking it somewhat resembles somnambulism; and a case is mentioned by Morehouse, in his work on "Intoxicating Liquors," of a man who was for fifteen hours speechless and insensible to external objects, but who, meantime, went through all the operations of his trade with great assiduity, and moved his lips as if in conversation.

This plant is interesting to the historical reader from the narrative respecting it given by Buchanan, the historian. This author relates, that the Scots under Macbeth, being desirous of poisoning the Danes, treacherously took the opportunity, during a season of truce, to mix the poisonous Nightshade with the ale with which they had agreed to supply them. The army of Sweno slept

soundly, and their enemies then destroyed them during their helplessness. Our great dramatist is believed by many to have alluded to this plant when he represents Banquo as asking, "Or have we eaten of the insane root that takes the reason prisoner?" Professor Burnett remarks, "Even in earlier times the paroxysms of madness which were brought on by it seem, as indeed well they might, to have challenged the wonder of observers; for it is supposed, and not without reason, to be the plant eaten by Marc Antony when distressed for provisions, and the strong effects of which are recorded by Plutarch in his account of the Parthian war. He says, those who sought for herbs obtained few that they had been accustomed to eat, and, in tasting unknown herbs they found one that brought on madness and death. He that had eaten of it immediately lost all memory and knowledge, but at the same time would busy himself in moving every stone which he met with, as if he was engaged on some very important pursuit."

Our oldest poets refer frequently to the somniferous properties of this Nightshade. Thus Chaucer says—

> "Arise, quod she; what, have ye dronken Dwale?
> Why slepen ye? it is no nitertale."

Mr. Albert Way, commenting on this subject, says, "A strange effect is attributed to this plant in a volume of miscellaneous collections, once belonging to William of Worcestre, Sloane MS.: 'For to take alle maner of byrdys. Take whete or other corne, and take guse of dwale and menche the corne therein, and ley it by the byrde's hawnteyne; and when they have eaten thereof, they shall slepe that ye may take them with your

handys.'" Gerarde was well aware of its powerful properties, for he says, "If you will follow my counsell, deale not with the same in any case, and banish it from your gardens and the use of it also, being a plant so furious and deadly; for it bringeth such as have eaten thereof into a dead sleepe, wherein many have died."

The *Belladónna* has been, in our times, recommended as a preventive against scarlet fever; and Professor Burnett says, that it does really seem to render persons unsusceptible to that disorder. Its power of dilating the pupil of the eye renders this plant very serviceable to the oculist in his delicate operations on that organ, and this Nightshade is often applied externally in painful maladies. No part of the plant possesses any odour indicative of its poisonous nature, though this might be inferred from the lurid hue of its flowers. The juice of the ripe berries gives to paper a beautiful and durable tint of purple; and a cosmetic made in former days by the Italian ladies from its juices, procured for the plant the name of *Belladónna*. The Germans probably used it in the extermination of wolves, for they call it *Wolfskirche*.

Order LX. OROBANCHEÆ.—THE BROOM-RAPE TRIBE.

Calyx variously divided, not falling off; *corolla* irregular, usually 2-lipped, imbricated in the bud; *stamens* 4, 2 long and 2 short; *anthers* often pointed or bearded at the base; *ovary* in a fleshy disk, many seeded; *style* 1; *stigma* 2-lobed; *capsule* 2-valved; *seeds* very minute,


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numerous, attached to the valves of the capsule in 2—4 rows. This order consists of herbaceous plants, which are generally parasitic on the roots of other vegetables. They are succulent and leafless, of a dingy red colour, with large flowers of dull brown yellow or purple, arranged in a spike on the upper part of the stem.

1. Orobánche (Broom-rape).—*Calyx* of two lateral sepals, which are usually 2-cleft, and often combined in front with 1—3 bracts at the base; *corolla* gaping, 4—5-cleft, not falling off. Name from the Greek *órobus*, a vetch, and *ancho*, to strangle, from the injurious effects produced in the plants to which they attach themselves.

2. Lathrǽa (Toothwort).—*Calyx* bell-shaped, 4-cleft; *corolla* gaping, 2-lipped, the upper lip arched, entire, not falling off. Name from the Greek *Lathraios*, hid or concealed, because the plant often grows among dead leaves.

1. Orobánche (Broom-rape).

* *Bracts one to each flower; stem simple.*

1. *O. májor* (Greater Broom-rape).—*Stem* simple; *corolla* inflated at the base in front, curved on the back; *upper lip* slightly notched, lower one in three segments, the middle lobe twice as large as the lateral ones; *stamens* inserted near the base of the corolla, smooth below, their upper part and the style downy; *root* perennial. The wanderer over the Heath-land, who, though he may not be a botanist, yet loves to mark the wild flowers there, is often arrested by the peculiar appearance of this plant. The botanist would at once guess that it was

a parasitic plant, from its leafless succulent condition and dingy hue. Many, on first looking on it, have believed it to be the remains of a flower from which the summer's sun had withered away all the beauty. The stem, swollen at the base, would lead one to suppose it to be the crown of the root, and the scales upon the stem serve on the upper portion as bracts, one occurring under each corolla. Stem, scales, and flowers, all have much similarity in hue, being tinted with reddish brown; but the blossoms have besides a tinge of purple and dull yellow. They grow in a long close spike, expanding from May to July. We have seen specimens of the plant two feet and a half high, and the stem thick as a walking-stick; but it is more commonly a foot, or a foot and a-half in height. It is very clammy to the touch.

The Broom-rapes, of which there are several species, are very difficult of discrimination, and authors are much divided as to the exact number of really distinct forms. Parasitic plants become much altered, too, by the substance of the plants on which they feed, so that it requires much attention to ascertain how far any distinctions are permanent. The whole family are parasitic on the roots of other vegetables, each species preferring its own peculiar aliment. It has been proved by experiments, that their seeds will lie dormant in the soil for years, until the plant to which the species attaches itself shoots out its roots near them, when they immediately seize upon them, often to the very great detriment of the foster-plant. The Greater Broom-rape is by no means unfrequent on gravelly heaths, selecting the roots of various species of the Leguminous tribe, especially

shrubby plants. Mr. Loudon says, that any of the Broom-rapes may be made to grow in the garden on the furze and broom; and this large species is more often, when wild, found on these than on any other plants. It had the old name of *Herba Leonina.*

The Broom-rapes have all a degree of acridity, and some astringency and bitterness. They were formerly used in medicines, and their juice was believed to cure agues and toothache, and to remove freckles or sunburn. They have in country places the old name of Strangleweed, and the species are more or less frequent throughout Europe, as well as in other quarters of the world. Dr. Hooker found the *Orobánche Indica* swarming in Bengal over broad acres of flax and rape. The French call the Broom-rape *Orobanche;* the Germans, *Erbsenwürgen;* the Dutch, *Leeuwstaart;* and the Italians, *Orobanche.*

2. *O. caryophyllácea* (Clove-scented Broom-rape).—*Sepals* many-nerved, lanceolate, equally two-cleft, shorter than the tube of the corolla, touching each other, or combined in front; *corolla* bell-shaped, curved on the back, upper lip broad, 2-lobed, lower 3-lobed, the segments blunt, nearly equal, wavy; *stamens* hairy below, above, together with the style, invested with glandular down; *stigma* blackish purple; *root* perennial. This species is very rare in this kingdom, being found only in South Kent, where it grows on the roots of the Great Hedge Bedstraw (*Gálium mollúgo*). It occurs, however, in some continental countries, and has been seen in Siberia and Italy, and attracted the attention of the Asiatic traveller on the mountains of the Himalaya.

The general habit and size of this plant is pretty much the same as that of the Greater Broom-rape, but it differs from it, in having the three segments of the lower lip obtuse, and much more fringed and curled. A still more striking feature of distinction consists, however, in the lower part of the stamens, on the inside being thickly clothed with hairs, whereas that part in *O. major* is smooth; the dark purple stigma, too, of this species affords another characteristic, as that of *O. major* is yellow. To one unaccustomed to mark these minute characters, the fragrant odour of cloves would at once indicate this rare flower when nearly expanded; and Gerard Edwards Smith says, the scent is remarkably developed if it be flowered in water. The plant is variable in height, colour, and the number of its blossoms: its prevailing hue is a dusky purple; but it occurs also of a yellowish brown, or nearly white. The author just alluded to says in his work on the rare flowering plants of South Kent, "The spikes are obtuse, scantily clothed with from ten to sixty flowers; the stem is flexuose and fragile, hollow, with much white pith." It grows, he says, in hedges and waste grounds, below Cæsar's Camp Hill, the Sugar-loaf Hill in Eastwear Bay, near Lydden Spout, and eastwards to Dover.

3. *O. rúbra* (Red Broom-rape).—*Sepals* 1-nerved, pointed, longer than the tube of the corolla, undivided: *corolla* slightly curved externally, having the upper lip covered within with glandular down; *lips* toothed and curled, upper one 2-lobed, lower one 3-lobed; *stamens* slightly hairy below, their upper part and the upper part of the style having glandular hairs; *stigma*



light red; *root* perennial. This plant, which is found on magnesian rock at the Lizard Point, Cornwall, and which is very frequent on basaltic and trap rocks in Ireland and Scotland, is parasitic upon the common Thyme. It is slightly fragrant.

4. *O. elátior* (Tall Broom-rape).—*Sepals* many-nerved, equally 2-cleft, as long as the tube of the corolla, connected in front; *corolla* curved, limb spreading, unequally toothed, wavy; upper *lip* 2-lobed, lower 3-lobed, the segments nearly equal, acute; *filaments* smooth above, glandular, hairy below; *stigma* of 2 lobes of brownish yellow; *root* perennial. This is a rare species, having less of the reddish or purplish brown tint than the preceding, and altogether of a duller, yellowish hue. The stem is two or three feet high; and the plant, which flowers from June to August, is found in several parts of England, where the soil is of gravel, growing on the roots of the Great Knapweed (*Centauréa Scabiosa*).

5. *O. Pícridis* (Picris Broom-rape).—*Sepals* 1—3-nerved, entire, or toothed in front, below gradually narrowed into one or two sharp points; *corolla* swelled at the base, slightly curved at each end, nearly straight at the back; *lips* toothed, wavy, upper without notches, lower of three roundish lobes, the middle one the largest; *stamens* hairy in their lower half within; *style* glandular below, in front, and throughout on its upper half; *stigma* lobed, purple; *anthers* purple or yellowish; *root* annual. This rare species is found in the Isle of Wight, near Comberton, in Cambridgeshire, and on some other places, flowering in June and July on the yellow Picris. Many authors doubt if it is really distinct as a species.

6. *O. mínor* (Lesser Broom-rape).—*Sepals* many-nerved, broad below, suddenly narrowing into one or two acute points, as long or longer than the tube of the corolla; *corolla* curved; *lips* bluntly toothed, wavy, upper lip 2-lobed, lower of three roundish lobes; *stamens* hairy below; *style* nearly smooth; *lobes* of the stigma purple, and nearly distinct; *root* annual. This species, which occurs chiefly on the common red clover, is, however, parasitic on various other plants. In Norfolk, Kent, Surrey, and some other counties, it is often very abundant on the clover-fields; but, unlike most of the species, it does not seem greatly to injure the crop which it infests, though, of course, it occupies some room on the soil. It has not, at any rate, the effects which the ancients ascribed to all the species, which they disliked not alone for the space which they occupied in their fields and the nourishment which they took from the foster plants, but also from the notion that they imparted to them a deleterious property. Hence the Greeks rejected beans on which the Broom-rape had attached itself, believing them to be unwholesome. A plant differing very slightly from this, and called by some writers the Bluish Broom-rape (*O. amythýstea*), is parasitical upon the Sea-side Carrot in Whitsand Bay, Cornwall. It apparently differs only by having the corolla curved, and the lobes of the purple stigma growing in a straggling manner.

7. *O. Héderæ* (Ivy Broom-rape).—*Sepals* 1-nerved, broad below, suddenly contracting into 1—2 awl-shaped points, nearly as long or longer than the tube of the corolla; *corolla* curved; *lips* toothed, wavy, upper lip

2-lobed, its sides straight, lower of three roundish nearly equal lobes; *stamens* smooth, slightly hairy below; *style* smooth, or with a few hairs on the upper part; *stigma* yellow, scarcely lobed; *root* perennial. This species, which has a purplish stem, is parasitical upon the Ivy in the south and west of England and Wales, and at Mucross Abbey, and some other Irish localities. It is most abundant on the Ivy in the neighbourhood of Dublin, and has been planted on that evergreen in the Botanic Gardens of Glasnevin with success. Many botanists believe it to be but a form of *O. mínor*, from which it differs chiefly by its yellow stigma, which has its lobes attached together, instead of being nearly distinct.

** *Bracts three under each flower; stems in some species branched.*

8. *O. arenária* (Sand Broom-rape).—*Stem* simple; *calyx* with five short awl-shaped teeth; *corolla* tubular, nearly straight, the middle of the tube compressed at the back, throat slightly inflated, upper lip cloven, lobes of the lips blunt, rolled back at the margin, lower lip hairy within, line down the anthers hairy; *root* perennial. This rare species is found in the Channel Islands, where it is parasitical on the Common Yarrow.

9. *O. cærúlea* (Purple Broom-rape).—*Stem* simple; *calyx* with five short acute teeth; *corolla* tubular, curved in front, middle of the tube compressed, upper lip of the corolla cloven, lobes of the lips acute, with rolled margins; *anthers* smooth; *style* downy; *stigma* scarcely 2-lobed, white. This is a rare species, found in grassy

pastures, especially near the sea. It has been found in Hertfordshire and the Isle of Wight, but is less unfrequent in Norfolk than elsewhere. It flowers from June to August; the stem, scales, bracts, calyx, and corolla are all slightly downy, and the flowers incline more to purplish blue than in any other species.

10. *O. ramósa* (Branched Broom-rape). — *Stem* branched; *calyx* with four triangular egg-shaped pointed teeth; *upper lip* of corolla deeply cloven; *anthers* smooth; *root* annual. This very rare plant occurs on the roots of hemp in Norfolk, Suffolk, and some other counties. It is altogether of much paler colour than most of the species, and its stems are usually branched. It flowers in August and September.

The beauty of some of the Broom-rapes of other countries has induced many persons to attempt their cultivation. The culture of parasitic plants has, in many cases, been found difficult. Dr. Berthold Seeman remarks, that the species of Loranthus of tropical and sub-tropical regions are most beautiful plants, bearing, instead of the inconspicuous flower of our Mistletoe, blossoms of the brightest scarlet and yellow colours, and often averaging more than eight inches in length. He adds, "What gardener has ever looked over the plates, even of our European Floras, or herborised on any part of the British Isles or the Continent, who has not been struck with some of the Broom-rapes, and regretted his inability to rear these rivals of Orchideæ, in the establishment under his care?" It has, however, been found possible to cultivate this tribe of plants, and several of the European species have been reared with success in the Botanic

Garden of Göttingen. A writer in the "Gardener's Chronicle," in December 1853, remarks, "Professor Barthing, the learned director of the Göttingen garden, collected, some years ago, seeds of all the Orobanches which he could procure; and sowing them in pots upon the roots of those plants to which they are partial, he had the satisfaction of seeing them spring up and produce their elegant flowers. The experiment is easily imitated; but he who is about to attempt it, should make himself perfectly acquainted with the mode of growth of each individual species which he has determined to raise. Some of them, for instance, will be found attached to the extremities of the roots; others close to the main stem of the plants." Unless these points are attended to, the seeds of the Broom-rapes may remain for years in the soil without vegetating. A later writer in the same journal stated, that living parasites were then growing well in the Botanic Garden of Glasnevin; and that Broom-rapes, Toothworts, Dodders, and other parasitic plants usually deemed difficult of culture, succeeded well in a small town-garden known to the writer, though in these cases the plants had not been reared from seed, but by a kind of root-grafting.

2. Lathræa (Toothwort).

1. *L. squamária* (Greater Toothwort).—*Flowers* drooping in 1-sided racemes, lower lip of the corolla three-cleft; *bracts* broadly egg-shaped or lanceolate; *root* perennial. This parasite is not to be found, like the Broom-rape, growing beneath the broad sunshine, for it springs up in the recesses of the summer woodland. It

attaches itself there to the roots of the Elm, Hazel, or other trees; and, though a rare plant, occurs in various parts of England, Ireland, and Scotland. The author has found it on two spots in Kent. On the roots of some Elms on a field near Shorsted Farm, at a short distance from Rochester, it grows in some quantity; and also in a small wood near Hythe. It is a juicy, leafless plant, with many fleshy, tooth-like scales, often, but not always, colourless. The leafless parasites have usually the singular property of never developing any bright colours or assuming any green tint. The Tooth-wort, however, when exposed to a greater degree of light than that under which it is ordinarily found, becomes much affected in hue by the circumstance. Mr. Dovaston, who planted this parasite on the roots of the Hazel, tells us, that just as he had despaired of the result, he succeeded in making it grow. He remarks, "It was four years, and in some cases five, before it came up visibly. I gathered the seeds in Erddig woods, where you may remember we saw it in great luxuriance. It will, however, turn pink or purple when very much exposed to the light; for having cut away some of the hazel branches to bring it more in view of the walk, the sunbeams, in a few days, turned it so very pinky and purple, that some ladies were very much struck with the beauty and delicacy of the colours, though the plant itself is rather of a repulsive and cadaverous aspect." Like other leafless parasites, however, the plant seems to have the peculiar property of resisting the action of light, towards which all the green portions of a soil-sustained plant irresistibly turn, as we may see in those of our

windows and greenhouses. The Toothwort, when its flower-stems have acquired their full height, is not always erect, and it branches from the very base. It sometimes grows in little circular groups of twenty or thirty plants together. The flowers, which are ranged down one side of the stem, are as often turned from the only side on which the light can enter as towards it. The flowers are sometimes dull, pale purple, or pink; sometimes of a brownish or pinkish white. They have broad bracts at their base, and expand in April and May, the pale stem rising from among the withered leaves of the last autumn to about a foot high; the branches or stems at its base being either below the leafy mass, or frequently beneath the surface of the soil. The subterranean stem has on it a number of scales, which in size, shape, and colour, have a very remarkable resemblance to the human tooth, and suggested the specific name of *Squamaria* (from the Latin *squama*, a scale), as well as the English Toothwort. These were long considered as roots, or scaly appendages to the roots; but Mr. Bowman, after various minute and delicate dissections of these parts, has, by the application of the microscope, arrived at the conclusion that they are real leaves.

The French call this plant *La Clandestine;* the Germans, *Schuppen wurz;* the Dutch, *Schubwortel;* the Spaniards, *Madrona;* the Portuguese, *Dentaria bastarda.*

Order LXI. SCROPHULARINEÆ.—THE FIGWORT TRIBE.

Calyx 4—5 lobed, not falling off; *corolla* generally irregular, often 2-lipped, overlapping when in bud; *stamens* usually 4, 2 long and 2 short, sometimes 2 or 5; *ovary* 2-celled; *style* 1; *stigma* 2-lobed; *capsule* 2-celled, 2—4-valved, or opening by pores; *seeds* few or numerous. This is a large and important Order, consisting chiefly of herbaceous, but, in some cases, of shrubby plants, inhabiting all parts of the world. Many powerful medicinal plants are contained in it, as the Foxglove and the Hedge-Hyssop; while it contributes many beautiful flowers to our gardens, and makes our waysides gay with its Mulleins, Speedwells, and other lovely wild flowers.

* *Stamens* 2.

1. Verónica (Speedwell).—*Corolla* wheel-shaped, unequally 4-cleft, lower segment the narrowest; *capsule* 2-celled. Named from Veronica, a saint of the Roman Catholic Church.

* * *Stamens* 4, *usually* 2 *long and* 2 *short.*

2. Bártsia (Bartsia). — *Calyx* tubular, generally coloured, 4-cleft; *corolla* gaping, with a contracted throat, upper lip arched, entire, lower lip 3-lobed; *lobes* bent back; *capsule* flattened, pointed, 2-celled; *seeds* numerous, angular. Name in honour of John Bartsch, a Prussian botanist.

3. Euphrásia (Eye-bright).—*Calyx* tubular, 4-cleft; *corolla* gaping, upper lip divided, lower lip in three nearly

equal lobes; *anthers* spurred at the base; *capsule* flattened, blunt or notched; *seeds* numerous, ribbed. Name from the Greek, *Euphrósyne*, gladness, in allusion to its supposed useful properties.

4. Rhinánthus (Yellow-rattle).—*Calyx* inflated, 4-toothed; *corolla* gaping, upper lip flattened vertically, lower lip plane, 3-lobed; *capsule* flattened, blunt; *seeds* numerous, flat and bordered. Name in Greek signifying Nose-flower, from the peculiar form of the blossom.

5. Melampýrum (Cow-wheat).—*Calyx* tubular, with four narrow teeth; *corolla* gaping, upper lip flattened vertically, turned back at the margin, lower lip 3-cleft; *capsule* oblong, obliquely pointed, flattened; *seeds* one or two in each cell. Name in Greek signifying black wheat, the form of the seed resembling a grain of wheat, and the powdered seed being said, when mingled with flour, to render it black.

6. Pediculáris (Louse-wort).—*Calyx* inflated, its segments jagged, somewhat leafy; *corolla* gaping, upper lip arched, flattened vertically, lower lip plane, 3-lobed; *capsule* flattened, oblique, 2-celled; *seeds* angular. Name alluding to a disease which it is supposed to produce in sheep that feed upon it.

7. Scrophulária (Figwort).—*Calyx* 5-lobed; *corolla* nearly globose, with two short lips, the upper 2-lobed, with a small scale within, the lower 3-lobed; *capsule* opening with two valves, the edges of which are turned in. Name from the disease which the plant was supposed to cure.

8. Digitális (Foxglove).—*Calyx* in five deep, unequal segments; *corolla* irregularly bell-shaped, with 4—5

shallow lobes; *capsule* egg-shaped. Name from the Latin *digitale*, the finger of a glove, which its flowers resemble.

9. ANTIRRHÍNUM (Snapdragon). — *Calyx* 5-parted; *corolla* personate, swollen, but not spurred at the base, its mouth closed by a palate; *capsule* 2-celled, oblique, opening by pores at the top. Name in Greek signifying opposite the nose, from the mask-like appearance of the flowers.

10. LINÁRIA (Toad-flax).—*Calyx* 5-parted; *corolla* personate, spurred at the base; *mouth* closed by a palate; *capsule* swollen, 2-celled, opening by valves or teeth. Name from *linum*, flax, which the leaves of some species resemble.

11. LIMOSÉLLA (Mudwort).—*Calyx* 5-cleft; *corolla* bell-shaped, 5-cleft, equal; *capsule* globose, 2-valved. Name from the Latin *limus*, mud, from the soil in which it grows.

12. SIBTHÓRPIA (Money-wort).—*Calyx* in 5 deep spreading segments; *corolla* wheel-shaped, 5-cleft, nearly regular; *capsule* nearly round, flattened at the top. Name in honour of Dr. Sibthorpe, formerly Professor of Botany at Oxford.

* * * *Stamens* 5.

13. VERBÁSCUM (Mullein).—*Calyx* 5-parted; *corolla* wheel-shaped, 5-cleft, irregular; *stamens* hairy. Name from the Latin *barba*, a beard, from the shaggy leaves of some species.



1. Veronica (Speedwell).

* *Racemes terminal, tube of corolla longer than broad.*

1. *V. spicata* (Spiked Speedwell).—*Flowers* in a dense long spiked raceme; *bracts* longer than the stalks; *leaves* egg-shaped or lanceolate, with roundish serratures, but entire towards the end, lower ones broader, blunt and stalked; *capsules* egg-shaped, with a very long style; *stem* erect, branching at the base; *root* perennial. In one form of this plant, the lower leaves are oblong and wedge-shaped at the base; while another form has its leaves at the base either rounded or heart-shaped. This is a very rare Speedwell of chalky pastures. It has been found about Newmarket and Bury, as well as on some limestone cliffs in other parts of the kingdom. It is a common garden flower, and its bright blue blossoms are very ornamental there, during July and August. It is a much finer plant in the garden than when in its wild state; its dense spikes becoming, under culture, sometimes twelve inches long. Gardeners call it Cat's-tail Speedwell. It varies occasionally with white blossoms.

Some writers consider the word *Veronica* to be a corruption of *Betonica;* others have referred it to a Celtic word, corresponding to the modern Gaelic *firineachd,* faithfulness, the plant having been an emblem of that virtue. It is, however, with far more reason, believed to have originated in the legend of the Roman Catholic Church, respecting the Saint Veronica, who was the same as Berenice. The word is from the Greek *iera*

eikon, sacred picture; the blossoms having been fancied to bear a representation of the countenance of our Saviour. A handkerchief, superstitiously believed to have formerly belonged to this St. Veronica, was long preserved with great veneration at St. Peter's, in Rome, and is said to have been used by our Lord on his way to the crucifixion, and to have the impress of the sacred lineaments. A French writer tells us that a number of these "Veroniques, or Holy-faces," which were imitations of the original, were prized by many persons.

* * *Racemes terminal; tube of the corolla very short.*

2. *V. serpyllifólia* (Thyme-leaved Speedwell).—*Leaves* egg-shaped, or oval, slightly crenate; lower leaves smaller and rounder; *raceme* long and many-flowered; *capsule* inversely kidney-shaped, as long as the style; *stem* rooting below, afterwards erect, in one variety of the species prostrate, and with shorter racemes of flowers; *root* perennial. This is a small and not unfrequent plant on waste lands, by road-sides, or in pastures. It bears several many-flowered spike-like clusters of light-blue blossoms, veined with a darker tint. It is a very pretty plant, the variety with prostrate stems being especially so. This last grows on Highland mountains, and has much larger and more beautiful flowers than the ordinary form.

3. *V. alpína* (Alpine Speedwell).—*Leaves* elliptical or egg-shaped, toothed or entire; lower leaves smaller; *raceme* few-flowered, hairy, with spreading, not glandular hairs; *capsule* inversely egg-shaped, notched, crowned

with the very short style. This beautiful but rare species is found only on the Highland mountains. Its stems are about four inches high, it has large leaves, and its dense raceme of bright blue flowers expands in July and August.

4. *V. saxátilis* (Blue Rock Speedwell).—*Leaves* elliptical, somewhat serrated, lower leaves smaller; *raceme* few-flowered, downy, the hairs not glandular; *stem* spreading; *capsule* egg-shaped, its valves 2-cleft; *root* perennial. This, too, is a mountain flower, growing, though rarely, on rocky places in Scotland. Several of the Speedwells flourish at great elevations on most bleak and exposed spots. Nor is the Arctic region without some of this lovely tribe to enliven the landscape. Dr. Hooker, in his "Flora Antarctica," referring to "Lord Auckland's Isles," tells us that among several bushy plants and ferns growing there, a shrubby Veronica was intermingled; while higher up the sides of the mountains, he remarks that a beautiful Alpine Flora makes its appearance, unrivalled in beauty by those of any Antarctic country. Such are the species of Gentian and a Veronica, with flowers of intensest blue, several magnificent compound flowers, a Ranunculus Phyllachne, and a liliaceous plant, whose dense spikes of gold are often so abundant as to attract the eye at a considerable distance. This latter plant, the *Chrysobactron Rossii*, often render large spots of so golden a hue as to be seen at a distance of some miles from the shore. Dr. Hooker remarks of these regions, that the vegetation is abundant, but the species of plants few in number.

5. *V. fruticulósa* (Flesh-coloured Speedwell).—*Raceme* many-flowered, downy, with glandular hairs; *leaves* leathery, elliptic-lanceolate, somewhat serrated; *stem* ascending, woody, branched at the base; *capsule* egg-shaped, with 2-cleft valves; *root* perennial. The flesh-coloured flowers of this species expand in July. The plant was found on Ben Cruachan by Dr. Walker, and on Ben Lawers by Dr. R. Brown, but has not been seen by any other botanists.

* * * *Racemes axillary.*

6. *V. scutellâta* (Marsh Speedwell).—*Racemes* alternate; *fruit-stalks* reflexed; *leaves* sessile, linear, somewhat toothed; *capsule* of two flattened roundish lobes; *stem* erect; *root* perennial. This species is found on the sides of ditches, and on other boggy places, having a long weak stem, and pale flesh-coloured blossoms, with darker bluish lines on the petals; the clusters of flowers are nearly opposite each other, and appear in July and August. The root sends out creeping scions.

7. *V. Anagállis* (Water Speedwell).—*Leaves* lanceolate, serrated, acute, sessile; *racemes* opposite; *fruit-stalks* spreading; *capsule* slightly notched; *stem* erect; *root* perennial, and sending out scions. This is a pretty flower, frequent in England, in ditches, or on their borders; and having, in July and August, pale or sometimes dark-blue flowers. The whole plant is usually smooth, but sometimes the long many-flowered racemes are slightly hairy. The stem is thick, hollow, and succulent, about a foot high. The plant is less frequent in Scotland than in England.


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8. *V. Beccabúnga* (Brooklime).—*Leaves* stalked, elliptical, obtuse, with rounded notches at the margin; *racemes* opposite; *fruit-stalks* spreading; *capsule* swollen, roundish, slightly notched; *stem* prostrate at the base, rooting; *root* perennial. The Brooklime is a very frequent plant, having, in its ordinary form, bright blue flowers, with bracts shorter than the stalks, but found occasionally, as at Dalkeith, with longer bracts and pink or flesh-coloured blossoms. It is a pretty succulent plant, with dark but bright green thick leaves, and a stout juicy stem about a foot high. Its brilliant little corollas may be seen glistening among the reeds by the watercourse from May to September. It is very pungent, and well deserves its name, which is said to be a corruption of the old Flemish *Beck-pungen*, mouth-smart. *Beccabúnga* may be, however, derived from the name by which the plant is still known in Germany. *Bach-bunge;* "bach" being, like our old English "beck," the name for a stream. The Brooklime is commonly called in Scotland Water-purpie; and being esteemed an excellent purifier of the blood, it is frequently sold with watercresses, to be eaten as a salad, but is too pungent to be generally agreeable. The leaves are much recommended by old herbalists to be made into diet drinks, to be taken in spring, and they are doubtless anti-scorbutic.

9. *V. officinális* (Common Speedwell).—*Leaves* elliptical, shortly stalked, serrated; *flowers* in dense racemes; *fruit-stalks* erect; *stem* procumbent, creeping; *capsule* inversely egg-shaped, triangular, with a wide shallow notch, or straight, as if cut off; *root* perennial. This is a very variable plant, having in one form a very

downy stem and broadly egg-shaped downy leaves ; in another being almost smooth ; and in a third, having small egg-shaped, somewhat lanceolate leaves, and a capsule inversely egg-shaped in form, but without any notch: the stem, too, varies very much in height in this Speedwell, which is abundant in many dry woods, though somewhat local. It bears its many-flowered clusters of blue flowers from May to July, but they are too pale and small to render this Speedwell as attractive as most of the genus. The plant was formerly very extensively used both in Sweden and Germany, as a substitute for tea, and it had the old French name of *Thé de l'Europe;* while Danish writers of former days positively asserted that it was the identical tea of China. The Germans still prize the Speedwell tea; and Professor Martyn says that it forms a more astringent and grateful beverage than the Chinese tea ; but Dr. Withering says, that an infusion of the Germander Speedwell makes a still better tea than this plant. In earlier days, when the Chinese tea was costly, and so rare that Pepys could, in 1661, note in his Diary, " Sent for a cup of tea, a China drink of which I had never drunk before," in such times Speedwell tea might prove a valuable acquisition to an English meal ; but we, who have long been used to our daily tea and coffee, have learned to look upon these gentle stimulants as among our necessaries, and are rarely tempted to test the value of the infusions made from the plants of our own woods or fields. Speedwell tea, however, was believed by our fathers not only to afford present refreshment, but also to strengthen the frame ; and Dutch writers on plants termed this one

"Honour and Praise." *Fluellin*, too, was one of its Welsh names, and the herb was highly valued by those who so called it, as well as by him who named it Paul's Betony. Boerhaave said of another of the Speedwells (*V. Orientális*), that he had cured with it a hundred different disorders; and Francus wrote a book solely on the virtues of this plant, which, according to his narration, had effected marvellous cures. Hoffman spoke very highly of the virtues of the Speedwell tribe, and many old French writers record cases of their usefulness; yet, except a slight degree of astringency, they do not seem to possess any peculiar powers, though they are all harmless.

10. *V. montána* (Mountain Speedwell).—*Leaves* stalked, broadly egg-shaped, serrated; *fruit-stalks* ascending; *capsule* roundish, notched at the base and summit, very large and quite flat, smooth, and with toothed edges; *stem* hairy, prostrate; *root* perennial. This is not an uncommon species in moist woods, having a weak trailing stem a foot or more long, and a few pale blue flowers growing in loose clusters from April to July. Its leaves are large, and the plant is remarkable for its large flat seed-vessels.

11. *V. Chamœdrys* (Germander Speedwell.)—*Leaves* nearly sessile, egg-shaped and heart-shaped, and deeply serrate; *racemes* long and many-flowered; *stem* ascending, hairy; *fruit-stalks* ascending; *capsules* flat, inversely heart-shaped, deeply notched, fringed with hair, and shorter than the calyx; *root* perennial. If there is one of the species deserving pre-eminently the old English

name of Speedwell, it is this. In the latter end of April, when breezes are all abroad,

"Giving a gentle kiss to every sedge,"

and when often we may hear the shower "sing i' the wind," when violets and primroses are in all their glory, and the daisies scattered over every meadow, then we may find clusters of this Speedwell. The flowers are large and numerous, looking like sapphires among the emerald spring verdure, having petals of brilliant blue, veined with darker lines, and varied by the white anthers. The leaves are wrinkled, and sometimes deeply serrated, and the plant has often at the end of summer on the upper part of the stem a number of whitish green hairy knobs, which, if we cut open, we find to enclose two or three insects in the chrysalis state, and of a yellowish or dull orange colour. This Speedwell is commonly by country people called Cat's-eye; and many poets, like Keats, call it Eyebright, though the true Eyebright is the Euphrasy. Wordsworth evidently intends our brilliant Veronica, in the Sonnet in which he speaks of the Eyebright:—

"Ere yet our course was graced with social trees,
It lack'd not old remains of hawthorn bowers,
Where small birds warbled to their paramours,
And earlier still was heard the hum of bees.
I saw them ply their harmless robberies,
And caught the fragrance which the sundry flowers,
Fed by the stream with soft perpetual showers,
Plenteously yielded to the vagrant breeze;
There bloom'd the Strawberry of the wilderness,
The trembling Eyebright show'd her sapphire blue,
The Thyme her purple, like the blush of even."

Elliott also says—

"Blue Eyebright, loveliest flower of all that grow
In flower-loved England."

The French call the Speedwells *Véronique;* the Germans, *Ehrenpreisse;* the Dutch, *Eerenprys;* the Italians, Spaniards, and Portuguese, *Veronica.*

The following lines were written by H. G. Adams for this volume:—

"Ah! the blue Germander Speedwell,
On the grassy bank that groweth;
Ah! the little twinkling Cat's-eye
'Twixt the April showers that bloweth,
Peeping, creeping, hither, thither,
Hiding midst the herbage rank;
And when cometh sunny weather,
Starting up as though to thank
Him who sendeth genial sunshine
Gladdening the flowrets all;
What, a rhyme for such a common—
Very common weed, and small?

"Common, aye; the hand that fashion'd
Peerless rose and lily stately,
Sent the honeysuckle twining
Round the elm that stands sedately;
Clothed with golden grain the upland,
And with grasses green the vale,
Furnishing to man and cattle
Nourishment that shall not fail.
That same hand the Speedwell fashion'd
Perfect in its every part;
'Tis a common weed, but show me
Such a work of human art.

"Therefore shall the little Speedwell
Have a tribute rhyme from me:

Eyebright, Cat's-eye, or Germander,
Fluellin, Paul's Betony,
Whatsoever name 'tis call'd by,
Ornament of rural ways,
Once thought worthy—why not now so?—
Of all honour and all praise;
In my rural walks I've often
Mark'd it with admiring eyes,
With its notched leaves and blue blossoms,
Brighter than Italian skies.

"It hath relatives a many,
One with ivy-shapen leaves,
That o'er gardens and o'er corn-fields
Quite an emerald network weaves;
One that groweth with the stonecrops
From interstices of walls;
One o'er banks and fields that runneth,
On whose flower a grey shade falls:
In the early spring we see them,
See them through long summer days,
And when stacks are piled, and autumn
Sets the woodlands all ablaze.

"Wherefore should I speak of others?
All are beautiful, all free
For the weakest hand to gather,
For the dimmest eye to see;
Springing in the shady woodlands,
Growing in the sunny fields,
On the wild, and by the wayside,
Every one a lesson yields,
Mute yet eloquent—all preachers
Of God's goodness are the flowers;
All are teachers, all beseechers
Of these stubborn hearts of ours.

"Unto me the little Speedwell,
Insignificant and small,
Though I love them all, yet speaketh
Even louder than them all.

If I see it in the morning,
'Speed thee well!' it seems to say;
At the noontide, 'Hast thou sped well?
Over now is half the day.'
In the evening, 'Night is coming!
Hast thou made thy calling sure?
Speed thee well, while light is with thee,
Not for long will it endure!'"

* * * * *Flowers axillary, solitary; flower-stalks recurved.*

12. *V. hederifólia* (Ivy-leaved Speedwell).— *Leaves* all stalked, heart-shaped, with 5—7 large teeth or lobes; *segments of the calyx* heart-shaped, fringed with fine hairs; *capsule* of 2 swollen lobes, each of which contains from 2 to 4 large black seeds; *stem* prostrate. No species of this genus is more easily recognised than this, for its floral and stem-leaves are all exactly similar, and all shaped like ivy leaves, of uniform bright green hue, and somewhat thick and succulent. This Speedwell is one of the earliest blooming of the species, and is very common on hedgebanks and in cultivated fields, growing up among the tender blades of corn as early as March, and its trailing stems pretty thickly set with leaves. Its blossoms are not so large as those of the Germander, but are brightly blue, and are welcome to the lover of wild flowers, because coming while flowers are yet but thinly scattered over dale and hill. Many can say with Robert Nichols:—

"Beautiful children of the wood and field,
That bloom by mountain streamlets 'mid the heather,
Or into clusters 'neath the hazel gather,
Or where by hoary rocks ye make your bield,
And sweetly flourish on through summer weather,
I love ye all!

"Beautiful things ye are, where'er ye grow:
The wild red rose, the Speedwell's peeping eyes,
Our own blue-bell, the daisy that doth rise
Wherever suns do fall or winds do blow,
And thousands more of blessed forms and dyes,
I love ye all!"

The seeds both of this and the next species are very useful to those of our singing birds which remain with us all the winter, or which in early spring come back to their adopted summer homes.

13. *V. agréstis* (Green Procumbent Field Speedwell). —*Leaves* all stalked, heart-shaped and egg-shaped, cut, deeply serrated; *sepals* oblong, blunt; *stamens* inserted at the very base of the corolla; *capsule* of 2 swollen keeled lobes, *cells* 6—10-seeded, sometimes hairy all over, at others fringed on the keel; *root* annual. This is a very abundant plant in waste places and cultivated fields in March, April, and May. In one of those premature seasons to which Shakspere refers—

"Short summers lightly have a forward spring,"

we have found this flower in the first week of February, its little bright blue petals gleaming among its leaves, and have thought how well it deserved its old name of Winter-weed. It flowers throughout the summer, and the lower part of the corolla is usually white, but a form of this plant occurs in which the petals are wholly blue, and the egg-shaped sepals acute, and this is the *V. polita* of some writers. The prostrate stems are three or four inches long, slightly hairy. Bishop Mant thus describes the plant:—

"The pastured mead or stubble field,
Or garden lightly scann'd, may yield
The first of all its numerous kind,
Procumbent Speedwell. See inclined
On arching stalk of bright blue dye,
And with a round and pearl-like eye,
Distinct it shows; its pendent head
Pluck, but be cautious lest you shed
The petals of the tender flower,
And shorten thus the little hour
At most allotted it to grace
With transient bloom its native place."

Every one familiar with this plant will acknowledge the accuracy of this description, and must have marked the peculiarly fugacious nature of its petals, which are often shattered while the plant is being gathered.

14. *V. Buxbaúmii* (Buxbaum's Speedwell).—*Leaves* egg-shaped and heart-shaped, stalked and deeply serrate, shorter than the flower-stalks; *segments* of the calyx lanceolate and acute; *stem* procumbent; *capsule* inversely heart-shaped, triangular, of 2 swollen sharply-keeled lobes, which are flattened upwards; *cells* 8—12-seeded; *root* annual. This plant is much taller and stouter than the preceding, more hairy, and has far handsomer flowers. These blossoms, which expand from May to September, are as large and as brightly tinted as those of the Germander Speedwell. Its stem is long and trailing, and it is found in fields and cultivated places. It has been seen in clover-fields near Margate, as well as elsewhere in Kent and other counties, and indeed, though formerly rare, is now becoming a frequent plant.

* * * * * *Flowers in spikes or racemes; flower-stalks erect or nearly so.*

15. *V. arvénsis* (Wall Speedwell).—*Leaves* heart-shaped and egg-shaped, with rounded notches at the margin, lower leaves stalked, upper ones lanceolate and entire, resembling bracts, longer than the flower; *raceme* somewhat spiked, many-flowered, lax; *capsule* inversely heart-shaped, flattened, fringed on the keel with slender hairs; *root* annual. This is a common plant of fields and old walls, having, from April to September, inconspicuous light blue flowers, almost hidden by the upper leaves, which, differing in form from the lower ones, may be regarded as bracts. The whole plant is downy, and, growing in arid plains, is often covered with dust. It occurs sometimes on gravelly or sandy heaths.

16. *V. vérna* (Vernal Speedwell).—*Leaves* cut and pinnatifid, the upper ones or bracts lanceolate, entire; *flower-stalks* shorter than the calyx; *capsule* broad, inversely heart-shaped, flattened and margined with roundish lobes, with 12—14 thin flat seeds; *root* annual. This very rare Speedwell has an erect stem, from one to three inches high, simple or branched at the lower part. It is much like the last species, and has in April and May pale blue flowers. It occurs on sandy heaths about Thetford, Bury, and Mildenhall in Suffolk.

17. *V. triphýllos* (Blunt-fingered Speedwell).—*Leaves* broadly egg-shaped, cut, the lower ones stalked, upper ones or bracts sessile, fingered, with obtuse segments; *flower-stalks* longer than the calyx; *capsules* inversely heart-shaped, flattened, with roundish fringed lobes, and



many seeds, which are concave on one side; *root* annual. This, too, is a very rare species, readily known by its deeply-fingered leaves, and by the dark-blue flowers which expand in April. Its stem is erect, with spreading branches, and is about four or five inches high. The plant has been found at Acomb near York, and on sandy fields about Mildenhall and Bury in Suffolk.

2. Bártsia (Bartsia).

1. *B. alpína* (Alpine Bartsia).—*Stem* erect, hairy; *leaves* opposite, egg-shaped, slightly clasping, bluntly serrated; *flowers* in a terminal, short, leafy spike; *root* creeping and perennial. This is a rare plant of Alpine pastures, and has been chiefly found in Westmoreland, Yorkshire, and other northern counties of England, growing in the grass among rocks, or in similar rocky and mountainous regions of Scotland. The stem is without branches, square, and from four to eight inches high. The flowers expand from June to August, are large, of deep purplish blue, and downy.

2. *B. viscósa* (Yellow viscid Bartsia).—*Leaves* opposite, upper ones alternate, lanceolate, cut, and serrated; *flowers* solitary, axillary, distant, upper ones crowded; *stem*, *leaves* and *calyx* all viscid; *root* fibrous and annual. This Bartsia grows in damp places, as marshes and wet meadows, in several parts of the west of England and Wales, in the south-west of Scotland, and the south of Ireland. It is readily known by its large solitary handsome yellow flowers, and by the clammy down which invests the whole plant. It is not common, and, except

that its flowers do not form a cluster, its general appearance is much like that of the Yellow Rattle. The stem is round, unbranched, and from three to twelve inches high, and the flowers open from June to October.

3. *B. Odontítes* (Red Bartsia).—*Leaves* narrow, lanceolate, distantly serrated, upper ones or bracts alternate; *flowers* in 1-sided racemes; *corolla* downy, lobes of the lower lip oblong, obtuse; *stem* branched, erect, downy; *root* annual. In one variety of this plant the leaves taper at the base, and the calyx segments are as long as the tube of the corolla, and the capsule oblong. In a form described as *Odontítes rotundata*, the leaves are broader at the base, the calyx-segments broadly triangular, one-half the length of the tube, the capsule almost rounded. The Red Bartsia is a very common plant in corn-fields or on dry banks, but it has little beauty and no odour with which to attract the wanderer in the field. It is a much-branched herbaceous plant, with a slender stem, about a foot high, and numerous spikes of dull pink flowers, having the floral leaves of a dim pinkish brown. The hue of these leaves, of the calyx, flowers, and stem, is, in some specimens, pretty nearly uniform, and of dull red, and the plant rarely exhibits any brightness of colour. The blossoms may be seen from July to September. Cattle will not eat it, and are said to abstain from the grass to the distance of some inches from the plant.

The genus Bartsia is associated with the memory of Dr. John Bartsch, a Prussian botanist, and a friend of Linnæus. The great Swedish botanist gave the genus its name, and he also gives an interesting and melan-

choly narrative of his friend, in his "Flora Suecica." Names like these serve among botanists to recal to affectionate memory many persons after whom they were called. Dr. Joseph Hooker records the effect on his mind, when in the remote regions of the Himalaya, of finding plants of the genera named respectively after Staunton, Buckland, and Wallich. "Such great names," he observes, "there brought before the traveller's notice, never failed to excite lively and pleasing emotions: it is the ignorant and unfeeling alone who can ridicule the associations of the names of travellers and naturalists with those of animals and plants."

3. Euphrásia (Eyebright).

1. *E. officinális* (Common Eyebright).—*Leaves* egg-shaped, deeply toothed; *flowers* axillary, smooth, lobes of the lower lip margined; *root* annual. We have often remarked that few, save botanists, know the name of the little Eyebright, common as it is on dry meadows, where the grass attains little luxuriance, or on grassy chalky inland slopes, or on cliffs frowning over the wide-stretched ocean. It is a pretty little blossom of white hue, its petals marked with lilac, while in some cases a lilac tinge is on the whole flower, save where it is variegated with a dash of yellow. The stems are from two to six inches high, little branched, and low on the chalk cliff; but when growing on the better soil of the pasture, it is often much branched, and altogether more luxuriant. It was formerly, in this country, called Euphrosyne, a name significant of joy or pleasure, perhaps because of

the elegance of its flower; perhaps because of the relief believed to be given to the sufferer by its medicinal properties. Our Euphrasy is a corruption of this name, as is also the French *Eufrase*, and the Italian *Eufrasie*. The Germans call the plant *Augentrost*, and the Dutch *Oogentroost*. The little blossoms expand from May to September.

The Euphrasy is slightly bitter and astringent, and was formerly very much valued as a remedy for ophthalmic disorders. Lightfoot says that the Scotch make an infusion of the plant with milk, and anoint the patient's eyes with the liquid. All our old herbalists used it in various ways. Culpepper says of it: "If the herb was but as much used as it is neglected, it would half spoil the spectacle-maker's trade: and a man would think that reason should teach people to prefer their natural before their artificial spectacles, which, that they may be instructed how to do, take the virtues of the Eyebright as followeth: the juice or distilled water of the plant, taken inwardly in white wine or broth, or dropped into the eyes for several days together, helpeth all infirmities of the eyes that causeth dimness of sight. Some make conserve of the flowers for the same effect. Being used any of the ways, it also helpeth a weak brain and memory." He adds, that, mixed with strong beer and drunk, or "the powdered herb made into an electuary with sugar, and taken, it serves to restore the eyes decayed through age: and Arnoldus de Villa Nova saith, it hath restored sight to them that have been blind a long time before." Gerarde, too, recommended the use of the plant in nearly the same manner, both to take

away "darknesse and dimnesse of the eyes," and that it might "comfort the memorie;" and he directs that the plant should be gathered during its flowering season for "physicke's use."

It is not wonderful that, having such universal repute, the poets of old times should have referred to it. Thus we find Milton representing the Archangel as clearing the vision of our first father—

> "Then purged with Euphrasy and Rue
> His visual orbs, for he had much to see."

Michael Drayton says—

> "The Fumitory get, and Eyebright for the eye,
> The yarrow wherewithal he stops the wound-made gore."

So, too, we find Spenser saying—

> "Yet Euphrasie may not be left unsung,
> That gives dim eyes to wander leagues around."

Thomson, in later days, influenced probably by the earlier poets, as much as by popular notions, says also—

> "If she whom I implore, Urania, deign
> With Euphrasy to purge away the mists
> Which, humid, dim the mirror of the mind."

A friend of Lobel is recorded to have lost his eyesight by the use of the plant; but this is not likely, as the Eyebright, when infused, gives a good eye-water, possessed of a slight astringency, though, as an internal remedy, it must be quite powerless. It is still in use among the descendants of some of the old "simplers." The author, on going into a small shop in Dover, saw a quantity of the plant suspended from the ceiling, and was told that it was gathered and dried as being good for weak eyes. The person who had gathered it, told her

of a wonderful cure which had been performed in his family by its use; and as the narrator was one in whose general truthfulness much confidence might be placed, the details of the cure were listened to with interest, although from past experience the listener well knew how strangely causes and effects were often misunderstood in relations of this kind. All faith in the efficacy of the Eyebright in this case was soon lost, as the narrator proceeded to tell how the patient had been previously stone blind for many years, and had been cured by eating pieces of the Euphrasy, gathered fresh from the neighbouring cliffs. A French botanist who wrote in "L'Encyclopédie des Sciences" remarks, that the virtues of this herb, as a cure for ophthalmia, must be altogether imaginary, because the distilled water of the plant, to which the virtue was ascribed, is absolutely scentless, and is, in fact, simply water, without any medicinal property. The juice, however, is apparently useful in some form of ophthalmic complaint; for we are assured by Professor Kranichfeld, that it has been very successfully employed in catarrhal affections of the eye.

4. Rhinánthus (Yellow Rattle).

1. *R. Crista-galli* (Common Yellow Rattle).—*Leaves* narrow, oblong, tapering to a point, serrated; *flowers* in loose spikes; *bracts* egg-shaped, deeply serrated; *root* annual. This is an abundant plant on many pastures, though somewhat local. The stem is about a foot or a foot and a half high, often much branched, of pale yellowish green, usually speckled with purple. The flowers

form a loose spike at its upper portion, having large pointed bracts beneath. They are yellow, and are very small compared to the pale green, shining, inflated calices. As the flowers fall off and the fruit ripens, the loose seeds rattle in their husky cases, and we then discover the aptness of the familiar name of the plant. The crested bracts procured for it the botanic and common appellation of Cock's-comb, which it has also in many European countries besides ours. The Italians call it *Cresta di gallo;* the French, *Cocrête des prés;* in Germany it is familiarly termed *Hahnenkamm*, and in Holland *Haanekam*. It abounds in meadows in the North of Europe; and the Swedes, who call it *Stallergräs*, regard the rattling of its seeds in the wind as an indication that the season has arrived for gathering in the hay, though on our own meadows the grass is mowed while the Yellow Rattle is in flower. In England it is disliked by the owners of pasture lands, as the cattle, if they do not leave it altogether untouched, yet are not fond of it. In the year 1839, when the author of these pages was visiting a village in Essex, great annoyance was expressed by many owners of pastures at the unusual amount of this plant among the grass. The grass was said by the farmers to be "burned" by the Yellow Rattle, and much inquiry was made, both as to the cause of its increase, and also as to the injury which it was considered to do to the meadows.

In the year 1847, M. Decaisne published, in the "Comptes Rendus," his opinion that the injury done to the grass by the Rattle was caused by the parasitic nature of this plant. As British botanists had hitherto

considered that we had but one green-leaved parasite, the Mistletoe, and that our parasites in general were brown and leafless, this peculiarity had not been suspected in England. M. Decaisne's statements, however, led to experiments in this country, by which it seems ascertained that the Yellow Rattle grows on the roots of the grasses, and it will probably appear that some other of the Scrophularineæ are also parasitic. Professor Henslow found that plants of the Rattle when growing at a distance from other plants did not thrive; that they were dwarfed in growth, flowered but in two specimens; and that finally they all withered, without producing seed. A single plant which grew near to some wheat, attained its usual dimensions; but the Professor failed to observe whether the seeds were perfected.

The Red Rattle is, in some parts of Kent, called Snaffles. It is termed in Ireland Rattle grass, Penny grass, and Henpenny grass.

2. *R. angustifólius* (Hairy Yellow Rattle, Large Bushy Yellow Rattle).—*Leaves* linear, lanceolate, upper ones tapering to a point; *flowers* in crowded spikes; *calyx* smooth, appendage of the upper lip of the corolla egg-shaped or oblong; *bracts* egg-shaped, pointed; *root* annual. A plant with broader and serrated leaves, hairy calices, and egg-shaped bracts, and which is usually the largest and stoutest form of the genus, is sometimes described as a variety of the Common Yellow Rattle, and is also the *R. májor*, *R. hirsútus*, or *R. villósus* of other writers. The authors of the British Flora remark, " Mr. Bentham observes to us in a letter, that



now, since it has been proved that this genus is parasitical, it is probable that all the supposed species ought to be united; an opinion in which we quite agree."

The Large Bushy Yellow Rattle is found in corn-fields in the north of England, and is described as having more dense and bushy spikes of flowers than the Common Yellow Rattle, and yellowish bracts, each terminating in a green point. The appendages to the upper lip of the corolla are purple; the seeds are thick at the edge, with a membranous margin.

5. Melampyrum (Cow-wheat).

1. *M. cristátum* (Crested Cow-wheat).—*Spikes* densely imbricated; *bracts* heart-shaped, tapering to a point, and cut into slender segments; *leaves* linear-lanceolate, acute, entire, with dark veins beneath; *root* annual. This is a very handsome plant in the month of July, with its dense 4-sided spikes of yellow flowers, which have a dash of purple on the inner lip, and grow each one in the axil of a floral leaf. These bracts are of deep rose-colour at the base, and the stem is about a foot or a foot and a half high. The plant is found in corn-fields, woods, and thickets in the eastern counties of England.

2. *M. arvénse* (Purple Cow-wheat).—*Spikes* lax, oblong; *bracts* egg-shaped, lanceolate, and gradually narrowing, pinnatifid, with awl-shaped segments; *calyx*, teeth as long as the tube of the corolla; *corolla* closed; *root* annual. This species, which is still more handsome and more rare than the last, is found in woods, on dry banks and in corn-fields in the Isle of Wight and about Norwich. The spikes of flowers are much larger than in

the crested species, and extremely beautiful from the varied tints which they and their floral leaves display. The bracts are green and purplish rose-coloured, the blossoms yellow, variegated with rose-colour and purple. This plant, which is abundant on some corn-lands, is a very troublesome weed to the farmer. Mr. Baxter, referring to it, says, "Dr. Bromfield tells me that the value of the wheat on certain farms in the land behind St. Lawrence, in the Isle of Wight, is greatly lowered from the admixture of the seeds, which cannot be separated from the grain by winnowing, the specific gravity of both being nearly the same. These seeds impart a bluish colour to the flour, and give it, when made into bread, an unwholesome flavour. The plant is known in that neighbourhood as Poverty-weed; and various traditions are afloat as to the manner of its introduction to this island, which, however, is not of very recent date, the species having existed in some of its present stations for at least forty years, and is by some supposed to have come over from Jersey, where, however, it is not known at present as indigenous or introduced." The writer adds, that "this unwelcome though splendid addition to the Flora of this island probably arose from an importation of wheat from Norfolk, or some other maritime county. It infests only such corn-lands in the island as lie over chalk, or contain a large proportion of calcareous earth." The plant is in flower from June to August, and is eaten by cows, though unpleasing to sheep.

3. *M. praténse* (Common Yellow Cow-wheat). — *Flowers* axillary, in pairs, all turning one way; *corolla* four times as long as the calyx, lower lip longer than the upper;

leaves in distant pairs, narrow, tapering, smooth; *upper bracts* with one or two teeth at the base; *root* perennial. Varieties of this plant occur, in one of which the bracts are quite entire, the plant is smaller and somewhat succulent; in another the leaves are bristly, the bracts with spreading teeth at the base. Though this plant is called Meadow Cow-wheat, yet it is not found in pastures, but in woods and thickets. It is a very common, but not a very attractive plant, having a slender stem about a foot high, with straggling opposite branches. The flowers, which appear from May to August, are tubular, of very pale yellow, sometimes almost cream-coloured. It is much relished by domestic animals, particularly kine; and Linnæus says that the richest and yellowest butter is made from the milk of animals grazing on spots where it is abundant. It is to this circumstance that the genus owes its English name; while that of *Melampyrum*, black wheat, originated in the form of the seed, which is much like a grain of wheat, conjoined with the blackness which the plant assumes in withering. This hue is most remarkable when the plant has been preserved in an herbarium, where, after a time, not a spot of green or yellow is perceptible in its universal inky tint. An old notion prevailed that this plant turned into wheat; hence one of its names was the Mother of Wheat. The French call the plant *Melampire*; the Germans, *Wachtelweizen*; the Dutch, *Akkerig zwart-koom*; the Italians, *Melampiro*; the Spaniards, *Trigo de vaca*; and the Swedes, *Skälle*.

4. *M. sylváticum* (Lesser-flowered Yellow Cow-wheat). —*Flowers* axillary, all turning one way; *corolla* open, about twice the length of the calyx, the lips equal in

length, the lower one turning downwards; *bracts* entire; *leaves* slender, lanceolate, in distant pairs; *root* annual. This is a smaller species than any of the preceding, and is a rare plant of mountainous woods of the north of England, but more frequently found in Scotland. The stem is about a foot high, the flowers about half the size of the common species, of deeper yellow, and very dissimilar in shape. It flowers in July.

Mimulus luteus (the Yellow Monkey-flower), which is nearly allied to this genus, is now naturalized in many boggy places. It is a native of America, and has egg-shaped, roundish leaves, the lower ones stalked, the upper clasping. Its yellow flowers are large and bright.

6. Pedicularis (Lousewort).

1. *P. palustris* (Marsh Lousewort).—*Stem* solitary, erect, branched; *leaves* pinnatifid, segments oblong, blunt and lobed; *calyx* egg-shaped, downy, 2-lobed, lobes deeply cut; *root* perennial. From June to September this is a very pretty marsh flower, sometimes giving to a portion of boggy land a rich red colour by its numerous large crimson blossoms, often with a spotted calyx. Its branches have frequently a purple tinge, and the deeply-cut leaves are extremely pretty. The plant is from twelve to eighteen inches in height. Both this and the following species are considered to produce disease in sheep feeding on the pasture where they abound; and hence their familiar name, though there is little doubt that the maladies of these animals are as much to be attributed to the unhealthy nature of marshy grounds, as to the plant itself. They possess, however, like the Sun-

dews, Spear-worts, and several other of our bog-plants, some degree of acridity. Mr. Purton says, that the healthiest flocks when fed on the next species (*P. sylvática*) soon become unhealthy; and he adds, that farmers should be careful to eradicate it. Both sheep and goats eat the plant, and both our British species were formerly considered good vulneraries. The leaves of a species called *P. lanáta* are said by Ainslie to be used in the Kureli Isles as a substitute for tea. That remarkable and magnificent flower, peculiar to Lapland and Sweden, named by Rudbeck *P. Sceptrum Carolinum*, is the great ornament of the genus; but our native kinds are both pretty flowers, and we have several handsome garden species. Most of the genus grow at great elevation above the level of the sea. Throughout Europe the plants are generally known by names synonymous with their scientific and English names. Thus the French call them *Pediculaire;* the Germans, *Läusekraut;* the Dutch, *Luiskruid;* the Italians, *Pidocchiera;* the Spanish, *Gallarito;* the Danes, *Luusurt.* In many of our country places they are called Red Rattle.

2. *P. sylvática* (Pasture Lousewort).—*Stem* branched at the base, erect; *branches* long, spreading, prostrate; *leaves* pinnatifid; *segments* lobed; *calyx* oblong, smooth, irregularly 5-lobed, inflated, and marked with green veins crossing each other; *root* perennial. This is quite a common plant of moist heaths and pastures, especially abounding in hilly places. It is of much lower growth than the last species, and its flowers are paler, being either rose-coloured or white. The smooth calyx has five unequal leaf-like lobes, its primary stem is very

short, and the branches lie over the ground thickly clad with their prettily cut leaves. The flowers, which are large, expand from June to August.

7. Scrophulária (Figwort).

* *Calyx with five rounded lobes, corolla purplish, upper lip with a scale on its inner side.*

1. *S. nodósa* (Knotted Figwort).—*Leaves* egg-shaped, somewhat heart-shaped, smooth, doubly and acutely serrated, the lower serratures largest; *stem* with four acute angles; *cymes* lax; *bracts* small, lanceolate, and acute; *capsules* egg-shaped; *root* tuberous and perennial. The knots, which give to this plant its specific name, must be looked for in the roots, and not on the stem. The root consists of a number of white tubers, generally round, and strung together by fibres, and varying from the size of a pea to that of a large marble. These knobs, resembling the glandular swellings produced by disease, apparently induced the older observers of plants to believe them to be efficacious in these maladies, and hence the name of the genus. The plant had much popular repute in former days, for Gerarde censures "divers who doe rashly teach that if it be hanged about the necke, or else carried about one, it keepeth a man in helth." The Knotted Figwort is a tall slender plant, three or four feet high, bearing in June and July repeatedly-forked panicles of flowers. These flowers are very small for the size of the herb; they are almost globular, and of dull purple, mingled with greenish yellow. The whole plant has a disagreeable odour, like the elder, and the roots are slightly bitter.



2. *S. Ehrhárti* (Ehrhart's Figwort).—*Leaves* smooth, egg-shaped, lanceolate, acute, somewhat heart-shaped, sharply serrated, lower serratures smaller; *stem* and *leaf-stalks* winged; *cymes* lax, few flowered; *sepals* roundish, with a broad membranous margin; *bracts* leaflike, lanceolate, and acute; *root* fibrous and perennial. This plant occurs in a few wet places in various parts of England and Scotland, having from July to September dark lurid purple flowers. The stem is from two to four feet high.

3. *S. aquática* (Water Figwort).—Smooth; *leaves* oblong, heart-shaped, blunt; *flowers* in close panicles; *bracts* linear, blunt; *sepals* with a broad membranous margin; *stem* 4-winged; *root* fibrous and perennial. This plant is common by the sides of ditches and streams, attracting our attention by its size, rather than its beauty. Its stem is from two to five feet high, hollow and succulent, and its flowers are from eight to fifteen in a cluster, of purplish brown colour. Its leaves are serrated with rounded notches, and are larger and of dark dull green. The stems become very rigid as the plant dries, and the Rev. C. A. Johns observes, that they are then very troublesome to anglers, as their lines become entangled among the withered capsules. The plant was formerly called Water Betony, Bishop's leaves, and Broad-wort, and in France it is termed *Herbe de Siège*, because it is said that during the siege of Rochelle, by Cardinal Richelieu, in 1628, the soldiers of the garrison supported themselves during a season of famine by eating the roots of the plant, which abounded in the moist lands in the neighbourhood. Though many good botanists have

stated that this is the plant which afforded relief in the emergency, yet the roots are so small that the author of these pages thinks that the Knotted Figwort often found in moist places was probably the species to which the soldiers were indebted, as its roots, though slightly bitter, are much larger. A decoction of the leaves of the Water Figwort is used in country places as a medicine for some domestic animals, but cattle refuse its herbage, and it is eaten only by the goat. Wasps are said to be very fond of its flowers. Mr. Babington says that these flowers are sometimes milk-white. The French call the Figworts *Schrophulaire*; the Germans, *Braunwur;* the Dutch, *Schrofelkruid;* the Italians, *Schrophulaire*. The species was very generally applied some centuries ago in most European countries as a cataplasm to tumours. M. Marchant stated some years since, in his Memoirs of the French Academy, his opinion that this plant is identical with the *Equetaia* of the Brazilians, which is so celebrated as correcting the disagreeable flavour of the medicinal Senna; and for a time the Edinburgh College, in their infusion of that drug, sanctioned its use. It was, however, in all probability, found to be unfitted for that purpose, as it is now discontinued. Although we have but few British species of *Scrophularia*, yet between seventy and eighty are enumerated as belonging to the wild flowers of other lands.

4. *S. Scorodónia* (Balm-leaved Figwort).—*Leaves* triangular, heart-shaped at the base, downy on both sides; *stem* downy, bluntly 4-winged; *cymes* lax, few-flowered; *bracts* linear, blunt; *sepals* with a broad membranous margin; *root* perennial. This species is at once distin-


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guished from all the others by its downy, wrinkled leaves, not unlike those of the Garden balm, and having large teeth that are again serrated. It is found only in Cornwall, at Tralee, in Ireland, and in Jersey, where it occurs on moist places. Its flowers, which appear in July, are dark purple, and its stem is two or three feet high.

** * Calyx of* 5 *acute segments; corolla yellow without a scale.*

5. *S. vernális* (Yellow Figwort).—*Leaves* downy, heart-shaped, acute, twice serrated, stem winged, hairy; *cymes* axillary, corymbose, with leaf-like bracts; *sepals* without a membranous margin; *root* perennial. This is the only ornamental species of Figwort indigenous to Britain, and, though of local occurrence, is occasionally found in great abundance. In some of the wilder parts of Berkshire, for instance, it is so plentiful as to form a feature in the landscape. It is very unlike the other species of Figwort; its swollen yellow flowers, with a greatly contracted mouth, much resembling one of the *Calceolarias*, but its foliage is of a remarkably bright green colour. Its stem is about two feet high, and it flowers early in spring, remaining in blossom till June.

8. Digitális (Foxglove).

1. *D. purpúrea* (Purple Foxglove).—*Leaves* egg-shaped, lanceolate, downy beneath, wrinkled, and with rounded or sharp notches at the margin, lower ones tapering to a footstalk; *sepals* oblong, acute, downy, 3-nerved; *corolla* obtuse, smooth externally; upper lip

scarcely cleft, segments of the lower lip rounded; *root* perennial. The *Digitális* received its name from Fuchs, whoso designated the plant from *digitabulum*, a thimble, in allusion to the form of the flower; and a similar reference is found in its familiar names almost everywhere. Our name is a corruption of Folk's glove, or Fairies' glove, these imaginary sprites having been known as the "good folk." The French term it *Gant de notre Dame* and *Gantelée;* the Germans, *Fingerhút;* and the Dutch, *Vingerhoed.* Turner, who wrote his book on plants in the reign of Queen Mary, says, "There is an herbe that groweth very much in Englande, and specially about Norfolke, about the conie holes, and in divers woddes, which is called in English Foxglove. It is named of some in Latin *Digitális;* that is to say, Thimble-wort. It hath a long stalke, and on the toppe many flowers hanginge downe like belles or thimbles." Cowley fancifully said—

> "The Foxglove on fair Flora's hand is worn,
> Lest while she gather flowers she meet a thorn."

The stem on which the bells hang is often three or four feet high, and the flowers are pale purple, beautifully spotted within, and from May to July they form a spike-like cluster, sometimes a foot long. We have scarcely another wild flower which can at all compete in stately beauty, in loveliness of form and hue, with our magnificent Foxglove, the "emblem of punishment and pride," as the poet has called it. Many a bard has told how it gladdened grove and hill, and many a lover of wild flowers has gazed for hours on spots enlivened by its

beauty, while the artist has seized it as a foreground for his picture of rural scenery.

This flower, though unknown in many districts of this kingdom, is abundant in others, especially in hilly regions, apparently preferring a sandy or gravelly soil, producing an abundance of seed, which sometimes springs up after it has lain long in the earth. This was the case a few years since on one of the hills of Malvern, where, when the soil was turned up, the Foxglove sprang up plentifully. On one part which was made into a pathway, the young plant was soon crushed by the passing footsteps, but it grew up in rows on each side of the path, giving it much the formal appearance of having been planted there by the gardener. It often grows either among the short grass of the hills, or amid the longer blades of the meadow, or by the bushes of hedgerows; and the author never saw it more luxuriant than in Kent. In the neighbourhood of Saltwood Castle, near Hythe, the plant is very abundant, growing in the woods and pastures among some of the most magnificent orchises; and we have gathered thence more than one specimen nearly six feet high, with its bells forming a pyramid two feet long. The inside of the bell is beautiful, with its rich purple spots and silken hairs, and its dashes of dark purple, which may be seen through its substance marking its exterior surface, while a beautiful white variety of the flower occurs in many woods. When this White Foxglove is removed to a garden, however, it often becomes more or less tinged with the original lilac or purple hue from which it varied.

But the *Digitális* may be praised for its use, as much

as for its beauty; for the leaves, after having been well dried in the sun or by the fire, yield a very important medicine. Many country medical practitioners procure these leaves, and themselves prepare the extract, as the plant should be gathered just at the season of its flowering in order to ensure its efficacy. The influence of the *Digitális* over the action of the heart, and its power of restraining in a short time the too rapid circulation of the blood, as well as its other uses, render this medicine of much worth in the hands of the skilful practitioner, though its powerful and dangerous properties make it safe only in the hands of one well acquainted with diseases and their remedies. "The history of this plant," says Dr. George Johnston, "might afford a practical censure to such as sneer at the pursuits of the botanist, and are continually asking, '*Cui bono?*' for it grew neglected, until Dr. Withering, a botanist, made known its virtues." The Foxglove had indeed been praised by old herbalists; as Gerarde, in 1597, wrote of various uses to which it was applied, though he had not apparently discovered its influence over the action of the heart; and Parkinson, who was an apothecary of London, and herborist to Charles I., regretted some years after, that few physicians used it, and that it was almost entirely neglected. This author says: "And it hath beene of later experience found also to be so effectuall against the falling sicknesse, that divers have been cured thereby." Since Dr. Withering called the attention of physicians to this plant, the medicine has been in almost daily use, not in England only, but on the Continent; and in Paris it is so highly valued that the flower is often

painted on the door-posts of an apothecary's dwelling. Modern practitioners do not, however, include among their remedies that outward use of its leaves which suggested the old Italian proverb, "*Aralda lutte piaghe salda.*" "Aralda (Foxglove) salveth all sores." Handsome as is our wild Foxglove, it seems scarcely to equal a flower which Colonel Mundy describes as resembling it, and which is the growth of Van Diemen's Land. "There are," says this writer, "several very pretty Iris-like bulbs in the moister soil, and in the lowlands of the Botany scrub. I noticed a crimson and orange flower, like the Foxglove in form, very handsome, but so hard and horny in texture, that the blossoms actually ring with a clear metallic sound as you shake them. It might be the fairies' dinner-bell calling them to their dew and ambrosia. Alas! there are no 'good people' in Australia. No one ever heard of a ghost, or a bogle, or fetch here. All is too absolutely material to afford a relic for imagination and superstition."

The Foxglove clump has a good effect either in garden or shrubbery, and our common species is a frequent ornament of the parterre. Several exotic species also, as the Great Yellow Foxglove, are beautiful plants. This is a native of Germany, and is very luxuriant on mountains of that land as well as in the Swiss Alps. The Madeira Foxglove is another magnificent species, which, in the gardens of Ghent, sometimes grows to the height of ten feet.

9. Antirrhínum (Snapdragon).

A. május (Great Snapdragon).—*Leaves* lanceolate, alternate, those of the branches opposite; *flowers* in spikes; *segments of the calyx* egg-shaped, blunt, shorter than the corolla; *upper lip of the corolla* cleft; *root* perennial. Every one who has lingered among old walls and ruins during our summer months, has seen the rich crimson blossoms of the Snapdragon waving to the wind which sweeps over castle-turret or church-tower. Nor is the bright flower wanting on the wall of more modern gardens. It is doubtful if this plant should be recorded as wild; for though it grows in innumerable places without culture, yet it has naturalized itself near to the garden ground, where once it was planted. Like the Wall-flower, though so frequent on walls it is not confined to them, for it often occurs in chalk pits and limestone quarries. It varies in colour from deep purplish crimson to pale pink or white, and in the garden, several varieties raised by nurserymen and florists assume every tint of red, yellow, and white, or are streaked like a carnation. Children press the corolla till they open the palate, when it bears that resemblance to the imaginary dragon which induced our fathers to give it its common name, though its similarity to the mouth of the pet animal renders its other common appellation of Rabbit's-mouth sufficiently expressive. Bull-dogs, Lion's-snap, Toad's-mouth, and Dog's-mouth, are also old names of the plant, which the French call *Muflier;* the Germans *Dorant;* the Dutch, *Leeuwebek;* the Italians and Spaniards, *Antirrino.* Vogel says that



in many countries the common people attribute a supernatural influence to the Snapdragon, and believe it to serve as a counter-charm, rendering all influences of the Evil eye and of maledictions ineffectual. The seeds are numerous, and yield an excellent oil, much used in Persia for domestic purposes; while in Russia the plant is sown in fields for the sake of this oil. A species used in Cochin China as food for swine, is called *A. porcínum*.

2. *A. Oróntium* (Lesser Snapdragon).—*Leaves* mostly alternate, linear, lanceolate; *spikes* very few-flowered, lax; *segments of calyx* longer than the corolla; *root* annual. This is a very much smaller plant than the preceding, and its flowers have little to attract in their dull purplish tint. The species is readily known from any allied plants by its leafy sepals, which are very much longer than the little blossom. Though somewhat local, this is not an unfrequent plant in corn-fields, and the author often finds it as a weed in gardens in Kent. The stem is about a foot high, and the leaves are dark green. It is in flower from July to October.

10. Linária (Toad-flax).

* *Stems and branches trailing.*

1. *L. Cýmbalária* (Ivy-leaved Toad-flax).—*Leaves* roundish, heart-shaped, 5-lobed, smooth; *flowers* solitary, axillary upon long stalks; *root* perennial. This plant is familiarly known to many persons by the name of Mother of Thousands. It is indeed very prolific, both in flowers and leaves, and, when once established on a

bank or stone wall, will soon spread over it. The long slender rooting stems attach themselves to the crumbled earth among crevices of buildings, and droop down so as to have suggested one of its familiar names, Maiden Hair. It is a common plant on the walls of gardens, and doubtless was, in former years, cultivated there, for it is a naturalized and not an indigenous species. I often combines with ferns and mosses to give a verdant tapestry to the old church or castle; its shoots sometimes winding in at a window, in which case the leaves are much smaller, for want of light. A specimen of this plant was exhibited in 1850 to the Chancellor of the Exchequer, by a deputation who waited on him respecting the abolition of window duties. This plant had lived for some years in one of Mr. Ward's closed glass cases, on the top of a model of an abbey. The branches, which grew towards the light, invariably produced leaves of the full size, with perfect flowers and fruit; whilst those branches which trailed down between the model and the window, and were nearly without light, never produced either blossom or fruit, and the leaves were not more than one-tenth the ordinary size. As all the other conditions of the plant were the same, this dwarfed and starved state of one part of the Toad-flax arose solely from the want of light, and was well calculated to show the depressing effects of darkened dwellings.

Dr. Joseph Hooker, when in the Himalaya, saw a similar plant, the yellow branched Toad-flax winding itself over every ruined wall of some ancient fortress in the Soane Valley, just as the ivy-leaved species does in this country. If the Himalayan kind should have the

same singular mode of depositing its seeds, we wonder not that its fertility should be equal. Our Ivy-leaved Toad-flax has a peculiarity almost without a parallel in the vegetable kingdom. The capsules before ripening turn round towards the wall on which the plant so often grows, and place themselves in a crevice or hole, so as to shed the seeds, when ripened, in a place where they may thrive, instead of scattering them on the ground, where they would be wasted. The leaves of our species are shaped much like those of the Ivy; are smooth, thick, and succulent, often of a pinkish purple beneath, and they have a warm pungent flavour like the water-cress. The plant is often placed in a pot hung from the cottage ceiling, where it sometimes attains great luxuriance. The author once measured a leaf from a cottage plant which was two inches and three quarters across. The flowers expand from May to September; they are small, and of a pale or dark bluish lilac.

This plant is used medicinally in India, and apparently with some success. It formerly acquired much celebrity as being one of the ingredients of that terrible poison known in France as the "*Poudre de Succession.*" The dreadful art of slow and secret poisoning, by which the victim seemed sinking from the ravages of lingering disease, is less possible now that chemistry has enabled us to detect more readily the presence of any deleterious substance. But it is not much more than a century since this wicked art had acquired such perfection that the celebrated Tophania, a woman residing at Naples, sold her cruel compound; and found so many ready to share her wickedness, that she is said to have caused

the death of six hundred persons. Garelli, the physician to Charles VI., King of the Two Sicilies, analysed her poison, and found it to be composed of an arsenical oxide, dissolved in a liquid called *Aqua Cymbalariæ*, which was made of the Ivy-leaved Toad-flax.

> "Hearts have been found—thank Heaven! not often found—
> So soil'd and stain'd by the polluting air
> And weariness of cities, men so vile,
> And women, too, alas! sometimes, who 've mix'd
> Poison with the pure perfumes of a flower."

The Ivy-leaved Toad-flax, from being believed to mingle with the *Poudre de Succession*, acquired, however, a notoriety of which it was undeserving, for the water distilled from it is simply an astringent, and by no means a powerful one; it was, therefore, doubtless used in these deleterious preparations from an ignorant misconception of its properties.

We seldom look upon

> The ivy-foliaged Toad-flax twined
> With purplish tendrils,"

without recalling an anecdote which was related by Schultz, in his "Botanical Visit to England," and which gives us a pleasanter association with this flower. Shortly after the publication by Linnæus of his arrangement of plants, this botanist, then a young man and little known, came over to England. He went to Oxford, and there visited Dillenius and Sherard. The latter botanist gave him a hearty welcome, but Dillenius, probably from that dislike to innovation more prevalent then than now among scientific men, received him very coldly. During a conversation which the two Oxford

friends held together, Dillenius remarked that this was the young fellow who was putting botany and botanists into confusion. Though unacquainted with the English language, the quick ear of Linnæus detected the word *canfiuschien*, as Dillenius with his German accent pronounced it; and readily connecting it with the Latin *confusio*, he at once understood the feeling of the botanist towards himself. They all three walked together up and down the Oxford garden, when Dillenius stopped before a wall ornamented with masses of the Ivy-leaved Toad-flax. Some difficulties respecting the structure of this plant had recently occupied the attention of the Professor, and he now questioned Linnæus as to his opinion on the subject. The doubtful points were all clearly understood by the young Swede, and fully explained in his usual lucid manner; other difficulties respecting various plants were discussed, in the conversation which followed, and were explained with equal felicity, and the prejudice which Dillenius had at first entertained for Linnæus was succeeded by regard and admiration for his genius and science. Before the three botanists separated, they had become friends; but on taking leave, Linnæus could not refrain from saying to Dillenius that he should have been very sorry to have brought confusion into the garden at Oxford. Dillenius blushed at this reference, and immediately apologised for his unkind but inadvertent expression.

2. *L. spúria* (Round-leaved Toad-flax).—*Leaves* roundish, egg-shaped; *spur* curved upwards; *flower-stalks* hairy; *stem* procumbent; *root* annual. This plant trails over the ground in many gravelly and sandy corn-fields,

but is chiefly confined to the east and south-east of England. It is abundant in many parts of Norfolk and Suffolk, and not uncommon in Kent. It is in blossom from July to November, and the flowers are small, solitary, and axillary, yellow, with the upper lip purple. The foliage is of a greyish dusty-looking green colour, and the leaves have sometimes one or two teeth on the margin. In some cases the flowers are regular, with five spurs.

3. *L. Elátiné* (Sharp-pointed Fluellin or Toad-flax).—*Leaves* broadly halberd-shaped, downy; *flowers* solitary, axillary, on long stalks; *root* annual. This species much resembles the last in the form of its flowers, and the colour of its leaves, which is never of a bright green; and, like it, is a trailing plant, flowering in the same months in corn-fields. The leaves, however, form a very distinct specific character, being sharply pointed, and, with the exception of a few at the base of the plant, being halberd-shaped. It grows both on chalk and gravel, and, though a local plant, is not rare. This species is more bitter than either of the others, and was formerly much used as a medicine in cutaneous disorders.

* * *Stems erect, ascending, or diffuse.*

4. *L. répens* (Creeping pale blue Toad-flax).—*Leaves* linear, scattered, or partly whorled, smooth; *flowers* in racemes; *sepals* lanceolate, as long as the spur, but shorter than the capsule; *seeds* angular and wrinkled; *root* perennial. This plant is rare, occurring chiefly on rocky places and chalky banks, especially near the sea. It has a slender-branched and leafy stem, from a foot to

a foot and a half in height; and its leaves are whorled below. The flowers, which appear from July to September, are white or pale lilac, marked with darker purple veins, and having a yellow palate. Some varieties are formed between this species and the next, which were formerly termed by various writers *L. itálica* and *L. sépium*.

5. *L. vulgáris* (Yellow Toad-flax).—*Leaves* smooth, linear, tapering to a point, crowded; *flowers* in dense spikes; *sepals* smooth, egg-shaped, acute, shorter than the capsule or spur; *root* perennial. This is the most common of all the species of Toad-flax. In May we may see its light green stems beset with slender grass-like leaves, of a pale sea-green hue, adorning the hedge-bank or border of the corn-field, and sometimes peering up among the growing corn. During August and September it is among the most showy flowers of our landscape; and the traveller, far away in the wilds of Siberia, sees it growing there with the yellow Silver-weed Potentilla, and dreams of home and harvest-fields. Its large and beautiful corollas are pale yellow, with a deep yellow spot, and are crowded into a close cluster from one to three inches long, on a stem which is one or two feet high. Country people call the plant Butter-and-eggs, Pattens-and-clogs, and Flax-weed. It is *Das Flackskraut* of the Germans, and *La Linaire* of the French. The leaves have a bitterish and somewhat saltish taste, and emit, when bruised, a peculiar but not very powerful odour. The plant is still sometimes infused, and taken medicinally; but it should be carefully used as an internal remedy, as its properties are powerful,

though an infusion of its flowers is a good external application for cutaneous affections, and the decoction, employed as a bath, has also proved very successful in removing eruptions on the skin. In Sussex it was formerly called Gall-wort, and was put into the water drunk by poultry, in order to cure them when drooping. It was greatly esteemed as a remedy for jaundice, and the juice is described as "cleansing the skin wonderfully of all sorts of deformity," and also as strengthening the sight by being dropped into the eyes, though we would warn our readers against this latter use of the herb. The flowers have been employed in dyeing yellow, and, mingled with milk, they are often placed on tables in farm-houses, as they serve to attract and destroy flies. A variety is sometimes found with a regular corolla and five spurs.

6. *L. Pelisseriána* (Upright purple Toad-flax).—Smooth; *leaves* linear, the lower ones whorled, the upper alternate, those of the barren shoots broader and ternate; *flowers* in short racemes; *flower-stalks* as long as the bracts; *sepals* linear, acute; *root* annual. This plant occurs in one or two places in Jersey. Its stems are erect, about a foot high, and it has, in June, purple flowers marked with darker veins.

7. *L. supína* (Diffuse Toad-flax).—Smooth; *stem* diffuse or ascending; *flower-stalks* and *sepals* glandular, hairy; *leaves* linear, blunt, mostly whorled; *sepals* narrow, shorter than the capsule; *root* perennial. This plant has been introduced, in all probability, with ballast in the few spots on which it is found. Its recorded places of growth are Catdown Quarries, Plymouth, Poole



in Dorsetshire, Hayle, and St. Blazey's Bay, Cornwall. Mr. Babington thinks, but with little reason, that the plant may possibly be truly wild at the Cornish stations. The flowers are in short racemes, yellow, the throat and spur marked with slender purple lines. The stem is but a few inches high, and much branched at the base. The plant is in flower during July and August.

8. *L. mínor* (Least Toad-flax).—*Leaves* linear-lanceolate, blunt, mostly alternate, covered with glandular down; *flowers* solitary, axillary; *flower-stalks* three times as long as the calyx; *segments of the upper lip of the corolla* spreading; *root* annual. This species is found in sandy and gravelly fields, chiefly in the eastern and south-eastern parts of England, and rarely in Scotland. It bears, from May to October, small flowers, of which the lower lip is yellowish; and the tube, upper lip, and spur, purplish. The stem is erect, from four to ten inches high.

11. Limosélla (Mud-wort).

1. *L. aquática* (Common Mud-wort).—*Leaves* lanceolate, narrow at the base, on long stalks; *flowers* on stalks which are shorter than the leaf-stalks, axillary and crowded; *root* annual. This little plant would be likely to escape the notice of any who were not intent on searching carefully the muddy shores for their vegetable curiosities. It grows on the borders of ponds, and on the edges of small standing muddy pools in several parts of the kingdom, but it is not a common plant. Its creeping root throws up a number of leaves on long footstalks. They are quite smooth, and overtop the

minute blossoms, which are pale pink or white, with purplish anthers, and appear in June and July. The Mud-wort is sometimes called Bastard Plantain. The French call it *La Limoselle;* and the Germans, *Das Sumpfkraut.*

12. Sibthórpia (Sibthorpia Money-wort).

1. *S. Europæa* (Creeping Sibthorpia).—*Leaves* roundish, lobed, and notched; *flowers* axillary, 5-cleft, on very short stalks, solitary; *root* perennial. This plant, which is called also Cornish Money-wort, is very common in Cornwall, growing on the shady banks of springs and streams, and forming masses of delicate green. Its trailing stems are clad with the roundish kidney-shaped leaves, which obtained for it its familiar name. The stems are hairy and very slender; and the tiny flowers, which expand from June to September, are of a pale flesh-colour. This elegant little plant, which occurs also in Devonshire, as well as on a few moist spots in other counties, received its generic name from Dr. Humphrey Sibthorp, the Professor of Botany, who succeeded Dillenius at Oxford, and who is well known to botanists by his works on the plants of Greece, as he travelled into that country for the purpose of identifying the flowers and trees mentioned by classic writers.

13. Verbáscum (Mullein)

* *Leaves running down the stem, woolly.*

1. *V. Thápsus* (Great Mullein).—*Stem* simple; *leaves* oblong, somewhat egg-shaped, woolly on both sides, all

running down the stem ; *flowers* in dense spikes ; *corolla* wheel-shaped, two of its stamens longer than the rest and smooth, the other three hairy ; *root* biennial. This tall Mullein, with its stem four or five feet high, is not unfrequent on waste grounds and banks of which the soil is chalk, gravel, or sand. It is also often planted in gardens, not merely because it is ornamental, but because bees are very fond of the flowers. The stem is angular and winged, and, like the leaves, it is so clothed with grey, woolly down, that we wonder not at the poet's description—

"The antique Mullein's flannel leaves,"

or that the peasant calls it Flannel-flower. Nor is its woolly covering adverted to in the names of our own land only, for the Germans call it *Wollkraut*, and the Dutch *Wollekruid*. In Italy the familiar name for the Mullein is *Tassobarbasso*, and in Spain *Gordolobo*, while the French call it *Bouillon blanc*, and the Portuguese *Verbascum bianco*. When we look at its tall tapering spike of light yellow flowers, we are not surprised to find that in a period when candles were commonly burnt in churches, it should have suggested to our fathers the old names of High Taper, Candlewick Taper, and Torches ; while it was also known, in common with some other species, by the names of Hare's-beard and Bullock's Lung-wort. It is frequent in several parts of Europe, growing, as with us, on dry banks and field borders, and is said to have taken its specific name from its abundance in the Isle of Thapsos. Mr. Purton, in his "Midland Flora," remarks, that this species has

considerable medicinal qualities, and other authors mention that its golden yellow flowers, when dried in the sun, yield an unctuous ointment. Kalm, when in Pennsylvania, remarks of this plant, "The Swedes settled here call it Tobacco of the Savages." They thought that the Indians smoked the leaves, but their opinion is probably not correct. They bound the Mullein leaves, however, about their arms and feet to cure ague.

2. *V. thapsifórme* (Thapsus-like Mullein). — *Stem* simple; *leaves* woolly on both sides; *flowers* in dense spike-like racemes; *corolla* flat, its segments unequal; two of the *filaments* smooth; *root* biennial. This is a still handsomer flower than the last, which it much resembles, though it is readily distinguished by its blossoms, which are of a golden yellow, about four times as long as the calyx, and much larger than in the last species. It cannot be regarded as a truly wild flower, though not unfrequent in Kent. It is in blossom during July and August.

* * *Leaves smooth, glandular, or hairy; upper ones half clasping, running down the stem; flowers solitary, or in pairs.*

3. *V. Blattária* (Moth Mullein).—*Leaves* oblong, smooth, notched; *root leaves* often lobed at the base, upper ones pointed; *flowers* solitary, stalked, collected into a long spike-like loose tuft; *hairs* of the filaments purple; *root* annual. This tall and slender Mullein has shining leaves, and its flowers, which expand in July and August, are of a rich yellow colour. Though not a generally distributed plant, it is not unfrequent in the

West of England on banks of a gravelly soil, and is found, though more rarely, in Kent, and several other counties. Many botanists consider that it is not truly wild in this country. It appears to be peculiarly disliked by cockroaches, and there is no better method of expelling these troublesome insects than by strewing its leaves over places to which they resort. The specific name is from *blatta*, a cockroach; and if Gerarde's statement is true, it deserves also its English name of Moth Mullein, for he says that moths and butterflies frequent the places where it is laid.

4. *V. virgátum* (Large-flowered Primrose-leaved Mullein).—*Leaves* twice serrated, slightly hairy, with glandular hairs, or in some cases quite smooth, egg-shaped, lanceolate, and toothed, those of the root somewhat lyrate, narrowing at the base; *flowers* from two to six together, shorter than the bracts; *root* biennial. This rare plant, which is found in fields and gravelly banks, is by some writers thought to be a variety of the last species. Indeed, several species of Mullein seem to run into each other, so that they have required much attention from botanists, who are not yet agreed as to their exact number. M. Schrader has published a learned monograph on the subject. The filaments of this species, like those of the last, are covered with purple hairs.

* * * *Leaves woolly or powdery, not running down the stem; flowers in clusters.*

5. *V. pulverulèntum* (Yellow Hoary Mullein).—*Leaves* egg-shaped and oblong, slightly serrated, and covered

on both sides with mealy wool, lower ones oblong and narrow, gradually tapering into a foot-stalk, the upper ones sessile and pointed; *stem* rounded, panicled above, with spreading branches; *root* biennial. This species, which is the *V. floccósum* of some botanists, is a common plant of the road-sides in Norfolk and Suffolk, and some other counties. It is, however, rare in many parts of this kingdom, and is so extremely beautiful a flower, that we can but regret that it is not a more general ornament by our pathways. It is readily distinguished from any other Mullein by the mealy woolly down on both sides of its leaves, which in most cases may be easily rubbed off with the finger, but which appears in a variety of the species to be permanent. This is in the month of July a truly magnificent plant, its hundreds of large corollas being spread open to bee and butterfly, forming a golden rod on a stem three or four feet high, and beautifully varied with the scarlet stamens, which are covered with white hairs. The flowers are on very short stalks, and these, as well as the calyxes, are covered with a thick wool. Correa observes of it, that if, in still weather, two or three flowers are struck with a stick all the corollas will fall off, leaving the calyx to close over the germen.

6. *V. Lychnítis* (White Mullein).—*Leaves* nearly smooth above, woolly and powdery beneath, with rounded notches at the margin; lower leaves oblong, wedge-shaped, and stalked; upper leaves sessile, egg-shaped, and pointed, with a rounded base; *stem* angular and panicled, with ascending branches; *root* biennial. This species occurs chiefly in chalky districts, and in

some parts of the kingdom is not uncommon on the hedges and borders of fields and pastures. It is less showy when in flower than most of its family, its blossoms, though numerous, being small and generally cream-coloured, though sometimes yellow; they are on short stalks, and their filaments have white hairs. They expand in July and August. The lower sides of the leaves are covered with thick wool, and the down of this, as well as of some other species, has been on some occasions used as tinder or as wicks to lamps; hence its name of *Lychnítis*, from the Greek for lamp. Morin states that a good yellow dye for cotton may be obtained from this plant; and adds, that an infusion of its flowers was formerly used by the Roman ladies to tinge their hair with that rich yellow hue once so much admired in Italy, and long after prized so highly in our own country when Spenser wrote:—

> "Instead of yellow locks, she did devise
> With golden wire to weave her curlèd head:
> Yet golden wire was not so yellow thrise
> As Florimell's faire heare."

7. *V. nígrum* (Dark Mullein).—*Leaves* nearly smooth above, woolly or downy beneath, with rounded notches at the margin, oblong heart-shaped, upper ones nearly sessile, lower ones on long stalks; *flowers* in dense tufts on a long crowded spike; *stem* angular; *root* perennial. This species bears its handsome spike of rather large rich yellow flowers from July to September, and their filaments are beautifully fringed with bright purple hairs. It is a tall plant, not so stout as the Great Mullein, and much darker in hue, the leaves being of

a deep green. It grows on banks and way-sides on gravelly and chalky soils, and is abundant and truly wild in the midland and southern counties, but in the north of England and Scotland is believed to be naturalized. It is said to possess slightly narcotic properties, and to have been used for intoxicating fish. A large number of species of Mullein are to be seen adorning our gardens. They are brought chiefly from the south of Europe, and some of them having escaped in several spots from cultivation have been described as native plants. Such are the *V. phœniceum*, *V. ferrugineum*, and some others, but they are neither wild nor naturalized to any extent. Parkinson, in his "Garden of Flowers," describes a species called the Woody Mullein, or French Sage, which appears to have been much prized in olden times. He says, the leaves are somewhat resembling Sage in form and roughness, but not in scent. "Whereof," he says, "our people gave it the name of Sage, calling it French Sage, (whereas it is as great a stranger in France as it is in England,) yet they doe with this as with many other things, calling those French which come from beyond the seas; as, for example, all or most of our bulbous flowers they call 'French flowers.'"

Order LXII. LABIATÆ.—THE LABIATE TRIBE.

Calyx tubular, regular or 2-lipped; *corolla* irregular, mostly 2-lipped (labiate), the lower lip largest, and 3-lobed; *stamens* 4, 2 longer than the others, or some-

times wanting; *ovary* deeply 4-lobed; *style* 1; *stigma* 2-cleft; *fruit* of four seeds, each of which is enclosed within a distinct shell or rind, and all lying at the bottom of the calyx. This is a large Order, marked by very distinct and obvious features, the plants having square stems, opposite leaves, labiate or two-lipped flowers, and a 4-lobed ovary, with a single style arising from the base of the lobes, and, in a large number of the genera, four stamens, two long and two short. Not a single plant of the Order possesses any poisonous properties, the Betony only being slightly acrid; and many are highly aromatic, and more or less bitter, and have cordial, tonic, and stomachic virtues; some, which abound in essential oil, are used as stimulants. Many, like the Balm, Sage, Marjoram, and Thyme, are valued as seasoning herbs, and several, like the Mint, for medicine. Others, as Lavender and Rosemary, are largely employed in perfumery. The latter plant is mingled with other ingredients in Eau de Cologne, and the essential oil of several, like the Sage and Lavender, contains so much camphor that it has been supposed that the separation of it might become an object of commerce. Rosemary yields camphor in a great degree; and Professor Lindley, as well as other botanists, consider an infusion of this plant decidedly useful as a wash for improving the hair both in strength and quantity. The flavour of the Narbonne honey is ascribed to the bees feeding on Rosemary flowers, as that of the honey of Hymettus was said to owe its taste to their having gathered it from wild Thyme. The Labiate plants are most abundant in temperate climates, and in our

country are more frequent during Autumn than any other season.

* *Stamens* 2.

1. Lycopus (Gipsy Wort).—*Calyx* 5-toothed; *corolla* 4-cleft, nearly regular. Name from *lucos*, a wolf, and *pous*, a foot, from a fancied resemblance of the leaves to a wolf's paw.

2. Salvia (Sage, or Clary).—*Calyx* 2-lipped; *corolla* gaping; *filaments* forked. Name from the Latin *salvo*, to heal, from the healing properties of the genus.

* * *Stamens* 4

I. Menthoideæ.—The Mint Group.—*Corolla nearly regular, its tube scarcely longer than the calyx; stamens spreading upwards.*

3. Méntha (Mint).—*Calyx* equal, 5-toothed; *corolla* 4-cleft, with a very short tube. Name, the Latin name of the plant.

II. Satureineæ.—The Thyme Group.—*Corolla 2-lipped, the tube about as long as the calyx; lips nearly equal in length; stamens nearly equal.*

4. Thymus (Thyme.)—*Calyx* 2-lipped, 10—13-ribbed, the throat hairy; *corolla* with the upper lip notched, the lower 3-cleft; *flowers* in heads or whorls. Name, the Latin name of the plant.

5. Origanum (Marjoram).—*Calyx* 5-toothed, 10—13-ribbed, the throat hairy; *flowers* in spikes, which are imbricated with bracts. Name from the Greek *oros*,

a mountain, and *ganos*, joy, from the favourite station of the plants.

III. Ajugoideæ.—The Bugle Group.—*Corolla with the upper lip very short or wanting, the two lower stamens longer than the upper.*

6. Teúcrium (Germander).—*Calyx* 5-cleft; *corolla* with the upper lip deeply 2-cleft, lower 3-cleft. Name from Teucer, who is said to have been the first to use it in medicine.

7. Ájuga (Bugle).—*Calyx* 5-cleft; *corolla* with a long tube, upper lip very short, lower 3-cleft. Name said to be corrupted from *Abija*, an allied plant.

IV. Nepeteæ.—The Catmint Group.—*Corolla 2-lipped, lips unequal; calyx* 5—10-*toothed; stamens longer than the tube of the corolla.*

8. Ballóta (Black Horehound.) — *Calyx* funnel-shaped, with 5 sharp equal teeth; *corolla* with the upper lip erect, concave, lower 3-lobed, the middle lobe largest, heart-shaped. Name from the Greek *ballo*, to reject, from its unpleasant odour.

9. Leonúrus (Motherwort).—*Calyx* with 5 prickly teeth; *corolla* with the upper lip nearly flat, very hairy above; *anthers* sprinkled with hard shining dots. Name from *leon*, a lion, and *oura* a tail.

10. Galeópsis (Hemp-nettle).—*Calyx* bell-shaped, with 5 prickly teeth; *corolla* with an inflated throat; upper *lip* arched, lower 3-lobed, with 2 teeth on its upper side. Name from *galeë*, a weasel, and *opsis*,

aspect, from a fancied resemblance of the flower to the snout of that animal.

11. Galeóbdolon (Weasel-snout).—*Calyx* with 5 ribs, and as many nearly equal teeth; *corolla* with the upper lip arched, entire, lower in 3 nearly equal acute lobes. Name from *galeë*, a weasel, and *bdolos*, a fetid scent, because supposed to have the odour of a weasel.

12. Lámium (Dead-nettle).—*Calyx* bell-shaped, with 10 ribs, and 5 teeth; *corolla* with an inflated tube, upper lip arched, lower 2-cleft, with 1 or 2 teeth at the base on each side. Name from the Greek *laimos*, a throat, from the form of the flower.

13. Betónica (Betony).—*Calyx* egg-shaped, with 10 ribs, and 5 sharp teeth; tube of the *corolla* longer than the calyx, upper lip slightly arched, lower flat, of 3 unequal lobes. Name altered from the Celtic *bentonic*, *ben* signifying head, and *ton*, good.

14. Stáchys (Wound-wort).—*Calyx* tubular, bell-shaped, with 10 ribs and 5 equal teeth; tube of the *corolla* as long as the calyx, upper lip arched, lower 3-lobed, the side lobes bent back before withering. Name from the Greek *stachys*, a spike.

15. Népeta (Cat-mint, Ground Ivy).—*Calyx* tubular, 15-ribbed, and 5-toothed; tube of the *corolla* longer than the calyx, upper lip flat, straight, notched, or 2-cleft, lower 3-lobed. Name of doubtful origin.

† *Lips of the corolla unequal; calyx* 5—10-*toothed; stamens shorter than the tube of the corolla.*

16. Marrúbium (White Horehound).—*Calyx* with 10 ribs and 5 or 10 spreading teeth, the throat hairy:



tube of the *corolla* longer than the calyx, upper lip straight, very narrow, deeply 2-cleft, lower 3-lobed. Name of doubtful origin.

†† *Lips of the corolla unequal; calyx 2-lipped.*

17. Calamíntha (Calamint). — *Calyx* 13-nerved, tubular, upper lip 3-cleft, lower 2-cleft, throat hairy. Name from *calos*, good, and *mentha*, mint.

18. Melíttis (Wild Bastard Balm).—*Calyx* bell-shaped, much wider than the tube of the corolla, variously lobed; upper lip of the *corolla* nearly flat, entire, lower with 3 rounded, nearly equal, lobes; *anthers* approaching in pairs, and forming a cross. Name from the Greek *melitta*, a bee, on account of the honey yielded by the flower.

19. Prunélla (Self-heal).—*Calyx* flattened, and closed when in fruit; *corolla* with the upper lip nearly entire, arched, lower one 3-lobed; *filaments* 2-forked. Name from the German *braüne*, quinsy, which complaint it was supposed to cure.

20. Scutellária (Skull-cap).—Upper lip of the *calyx* bulged outward about the middle, and finally closing down like a lid over the fruit; tube of the *corolla* much larger than the calyx. Name from the Latin *scutella*, a little cup, from the form of the calyx.

1. Lýcopus (Gipsy-wort).

1. *L. Europæus* (Common Gipsy-wort). — *Leaves* deeply and irregularly cut, almost pinnatifid, and serrated, wrinkled and opposite; *flowers* small, in dense sessile whorls in the axils of the upper leaves; *root*

perennial. This is not a frequent plant in all parts of this kingdom, though in many counties it is found very commonly on the margins of rivers and stagnant waters. To the owner of the moist pasture land it often proves a very troublesome weed, for it has a creeping root not easily removed, and ready to produce a new plant if but a small portion be left in the soil. No cattle will touch it, nor is it very ornamental to the meadow. Its flowers are crowded among the upper leaves, and Pollich says that he has sometimes counted eighty-two blossoms in a whorl. They are small, of a pale rose-colour, and expand in July and August. It is said that the wandering people who wish to pass for gipsies use this plant to give a brown tint to their complexions, and the juice of the walnut-leaf has been affirmed to be used for the same purpose. The dye of the Gipsy-wort would probably prove the more permanent hue, for it will impart a black stain to almost anything which its juice touches. In France it has been used in giving a good deep brown hue to silk, wool, and linen. The cut leaves, which suggested the botanic name, which is taken from the Greek, are also alluded to in several of the familiar names by which the plant is called in other countries. The Germans term it *Wolfsfuss*; the Dutch, *Wolfspoot*; the Italians, *Licopo*. Our country people know it as the Water Horehound, and it is the *Marrube aquatique* of the French. It was formerly termed *Lancea Christi*, and has been, from earliest times, praised as a febrifuge. It appears to possess powerfully astringent properties. It is very rare in Scotland, but is found by Loch Lindore, Fifeshire; and at Delvine, Perthshire.

2. Sálvia (Sage or Clary).

1. *S. praténsis* (Meadow Sage or Clary).—*Root-leaves* oblong, heart-shaped at the base, irregularly notched at the margin, stalked; those of the stem few, sessile; uppermost narrow and pointed; *bracts* egg-shaped and heart-shaped; *corolla* thrice as long as the calyx, upper segment clammy; *root* perennial. This plant varies in height from half a foot to more than two feet. It has wrinkled leaves, and its large purple flowers grow in whorls of about six corollas, with short egg-shaped floral leaves. It is very rare, occurring on dry meadows and hedge-banks in a few places of England. Cobham, in Kent, is an old recorded locality of this Sage, which is easily distinguished from our other species by having the corolla thrice as long as the calyx. Many botanists think that it is not a truly wild flower.

2. *S. Verbenáca* (Wild English Clary or Sage).—*Leaves* broadly egg-shaped, blunt, heart-shaped at the base, wavy at the edge, crenate and stalked, those of the stem sessile and clasping; *corolla* scarcely longer than the calyx; *bracts* oblong and pointed, about the length of the calyx; *root* perennial. This is not a very generally distributed plant, though not unfrequent on dry chalky or gravelly pastures, especially near the sea. It grows on several of the hills about Dover, and a few years since a meadow close to the upper part of the beach was in June and August quite purpled over with its flowers, though, since the erection of some batteries there, it seems to have quite disappeared. The blossoms are of a dull dark purple, growing in long spikes, and they

would give one the idea of being never fully expanded, as their calyxes surround them, and are almost as long as the bloom. The square stem is about one or two feet high, bearing a few wrinkled, ragged-looking leaves. The whole plant has a strong aromatic odour, something like that of the garden sage, but, except in its wrinkled leaf, it would not remind us of that plant, the foliage being of deep green hue, often tinged with purple, and marked with strong veins. It occurs in Scotland, in the neighbourhood of Edinburgh only.

This Sage is a native of Europe, Asia, Africa, and America. Its seeds when put in water yield a mucilage which, placed within the eyelid for a few minutes, envelopes any particle of dust which may pain the eye. Hence the name of the plant, Clary, or Clear Eye. Our old herbalists considered it one of the most efficacious of herbs in any complaint of the eyes; and not content, as we might be, to use the mucilage only, they all give directions that the seed itself should be laid under the eyelid. Gerarde says of this: "If put whole into the eies it cleanseth and purgeth them exceedingly from rednesse, inflammation, and divers other maladies, and taketh away the pain and smarting thereof, especially being put into the eie one seed at a time and no more." The virtues of this plant were held in such estimation, that it obtained the name "*Officinalis Christi.*" An old writer, who justly disapproved of this name, says: "It is so called most blasphemously," and adds, "I could wish from my soul that blasphemy, ignorance and tyranny were ceased among physicians, that they may be happy and I joyful." Like all the other old writers,

he recommends that the seed should be placed in the eye, and left there till it dropped out: the pain, he says, "will be nothing to speak of," and if often repeated "it will take off a film which covereth the sight; a handsomer and safer and easier remedy it is a great deal than to tear it off with a needle."

The mucilage covering the seed of this plant is not to be seen till the seeds are moistened. Mr. Baxter says: "This mucilage I have found to be composed of very minute spiral vessels, similar to those first described by Professor Lindley as partly composing the mucous matter which invests the seeds of *Collomia linearis*. These spiral vessels are very numerous in the mucous matter which envelopes the seeds of this Salvia. If a seed of this plant is placed on a bit of glass on the stage of a compound microscope, and then subjected to moisture by dropping upon it a drop or two of clear water, the spiral vessels may be seen almost immediately to dart forth from the outside of the testa, or skin, and to form a complete and beautiful radius round the seed. If the seed on which this experiment has been tried is allowed to dry upon the glass, the spiral vessels will remain in their extended position (their bases enclosed in the mucous matter which also dries upon the glass), and may be preserved as an interesting object for the microscope at any future time."

A curious preparation of this plant seems to have been a favourite dish with our ancestors. Parkinson says: "The leaves taken dry, and dipped into a batter made of the yolks of eggs, flour, and a little milk, then fryed with butter, until they be crisped, serve for a

dish of meate, acceptable with manie, unpleasant to none." Besides its uses in disease of the eye, this wild Clary was recommended for a variety of maladies, and seems to have shared the esteem in which the garden Sage was held, which had a high repute from remote antiquity. The saying of the ancients that "No man need die who had Sage in his garden," probably was the foundation of our own old English proverb :—

"He that eats Sage in May
Shall live for aye."

Parkinson says : "Sage is much used in the month of May fasting, with butter and parsley, and is held of most to conduce much to the health of man;" and a work called "The Englishman's Doctor," printed in 1607, has some lines on the subject which, if not very metrical, were doubtless deemed at least truthful :—

"Sage strengthens the sinews, feaver's heat doth swage,
The Palsie helps and rids of mickle woe,
In Latin (*Salvia*) takes the name of safety
In English Sage, is rather wise than craftie;
Sith then the name betokens wise and saving,
We count it Nature's friend and worth the having."

A very old name for the Clary was *Orvale sauvage.*

In Crete, where our garden Sage (*Salvia officinalis*) grows in wild abundance on the rocks, and where its fragrance is far more powerful than in our land, the leaves are annually collected by the Greeks for medicinal purposes. They deem it of especial importance to gather the plant either on the first or second day of May, before sunrise. They also drink an infusion of Sage leaves as tea, and make sweetmeats of the galls which are formed by insects on one of the species

common there, and which are sold in the markets under the name of Sage apples. Sage tea is still drunk in our own villages during spring, as beneficial to the health, and the Chinese were said some years since to prefer this beverage to their own tea, and once traded with the Dutch, to the great advantage of the latter people, by exchanging with them one pound of tea for four pounds of Sage leaves. Many species of Sage are valued in different European countries as medicinal herbs, and most of the continental names are, like the botanical one of *Salvia*, from *salvo*, to save or heal. Thus the French call the plant *La Sauge*, and the Germans *Die Salbey*. In Holland, it is termed *Salie;* in Italy and Spain, *Salvia ;* in Portugal, *Salva ;* in Russia, *Schalweja ;* and in Poland, *Szalwia*. In Holland, the flowers of *S. glutinósa* are used to give a flavour to English wines, and a good wine is sometimes made in our own country by boiling the leaves and flowers of our common wild Clary with sugar. This is said to have the flavour of Frontignac. All the genus are wholesome and cordial, and many, by the beauty of their bright scarlet or blue flowers, contribute greatly to the adornment of our gardens.

In the meadows of Germany several very handsome species of Salvia are common wild flowers. Anna Mary Howitt, referring to the suburbs of Munich, says, " You stand in fields covered with a lovely odorous mosaic of flowers and deep rich grass. Here the tall Salvia rears its graceful spike of brilliantly blue flowers. Clovers, white and red, scent the air with their honied perfume ; the delicate eyebright, daisies, harebells, thyme, bugloss, yellow vetch, the white powdery umbel of the wild

carrot, and the large mild-looking dog-daisies, bloom in a gay, delicious tangle."

3. *S. clandestína* (Small-flowered Sage).—*Leaves* oblong, heart-shaped below, deeply-toothed, and stalked; upper *leaves* oblong, acute, sessile, scarcely heart-shaped, pointed; tube of the *corolla* longer than the calyx; *root* perennial. This rare species of Sage is very nearly allied to the wild Clary. It grows on dry gravelly banks at the Lizard Point, Cornwall, its small purple flowers appearing in July.

3. Méntha (Mint).

* *Flowers in spiked whorls, or terminal heads.*

1. *M. sylvéstris* (Horse-mint).—*Leaves* almost sessile, egg-shaped, or lanceolate, serrated, and hoary beneath; *spikes* almost cylindrical, scarcely interrupted; *bracts* awl-shaped; *calyx* with sharp teeth, and very hairy; *root* perennial. This Mint is not unfrequent in England on damp waste grounds, having, during August and September, its slender spikes formed of crowded whorls of pale lilac flowers, with long floral leaves. It has the strong but pleasant odour common to many of the mint family, and often grows in large masses by the water-side. The foliage, which is very white beneath, sometimes looks as if it was mouldy. In one variety it has lanceolate leaves, while in another form these are oval, and it is sometimes found with very crisp and rugged leaves.

2. *M. rotundifólia* (Round-leaved Mint).—*Leaves* sessile, elliptical, blunt, acutely crenate, wrinkled, shaggy beneath; *spikes* oblong, dense; *bracts* lanceolate; *root* perennial. The whole of this plant is covered with long

soft hairs; its stem is about two feet high, and the under part of the leaves shaggy with white down. It flowers in August and September, and its corollas are of a pale lilac colour. It has a strong but disagreeable odour, and is not unfrequent by river sides and on bogs in England, though apparently not truly wild in Scotland.

3. *M. víridis* (Spearmint).—*Leaves* sessile, lanceolate, acute, smooth, and serrated; *spikes* elongated, interrupted; *bracts* awl-shaped, and as well as the calyx either smooth or hairy; *flower-stalks* always smooth; *calyx-teeth* bristle-tipped; *root* perennial. The stem of this mint is about two or three feet high, smooth, distinctly four-cornered, erect, and branched, and its bluish-lilac flowers appear in August. It is more often found in the kitchen-garden or the cottage-bed, where it has been cultivated for culinary purposes, than on any wild spot. It grows, however, in some marshy places in several parts of England, and has a few Scottish localities, though some botanists regard it as a naturalized, and not a wild plant of this kingdom. Its strongly-scented flowers appear in April, and the flavour of its aromatic and pungent foliage is too well known to need any comment. Like others of the genus, it leaves a sense of coolness on the tongue. In modern times, and in this country, it is chiefly used either in medicine or as a sauce for roasted meat, or as an addition to green peas and other vegetables, as also an ingredient in soups; but in olden times it was in much more general use, as it still is in some other countries. Its culture in the garden is very ancient, as we know both by its old name of Our Lady's Mint, and also from lines in Chaucer's "Romaunt of the Rose:"—

"Then wente I forthe on my right honde
Downe by a little path I fonde
Of mintes full and fenell greene."

Parkinson tells that it was, in his time, boiled with mackerel and other fish, and that when dried it was put into puddings, and also among green peas, which were "broght for pottage." He adds, "If applyed with salte it is a good helpe against the biting of a mad dog, and when dockes are not to be had, they use to bruise mintes and lay them upon any place that is stung by bees, wasps, and such like, and that to good purpose." Other writers of those days say, that mint should be smelled, as being comfortable for the head and memory. Pliny had said of this herb, "The smell of mint doth stir up the minde and taste to a greedy desire of meat" Margaret Paston, writing in 1476 about the illness of her cousin Bernay, says, "I remember yat mynte, or water of millefole, were good for my cosyn Bernay to drinke, for to make him browke;" the word browke meaning to brook or digest meat. Gerarde considered that the savour or smell of the water of mint "rejoyceth the heart of man, for which cause," he says, "they use to strew it in chambers and places of recreation, pleasure, and repose, and when feasts and banquets are to be made." Even within the last century the odour of mint has been considered as good for the head, and many would agree with Dodsley in his estimate of this and other plants. Referring to the works of the great Creator, he says:—

"He the salubrious leaf
Of cordial sage, the purple flowering head

Of fragrant lavender, enlivening mint,
Valerian's fetid smell, endows benign
With their cephalic virtues."

The Americans seem to have retained some of the old liking for mint, as their mint julep is a favourite beverage. Mint is highly valued in Eastern countries, and the custom yet existing of placing mint in the synagogues of the Jews is probably a remnant of an old Oriental practice. Our Saviour's rebuke to the Scribes and Pharisees proves that mint was in common culture amongst the Jews. He, who deemed the uprightness of heart, and the love of God and our neighbour, as of far higher value than the outward observance even of some appointed duty, said, "Woe unto you, Scribes and Pharisees, hypocrites, for ye pay tithe of mint, and anise, and cummin, and have omitted the weightier matters of the Law." There is little doubt that the word rendered anise by our translators should have been dill; and Rosenmüller quotes Rabbi Eliezer as saying, that the leaves, seed, and stem of dill were subject to tithe, so that we have reason for inferring that mint would be also tithed. That our Saviour's words did not imply any disapproval of attention to these minor duties is evident from those which followed: "These," said our blessed Lord, "ought ye to have done, and not to leave the other undone." The whole passage, however, certainly proves that mint was in general culture in Palestine as a garden herb; and though it is exceedingly difficult, if not impossible, to tell the exact species of mint valued by the Jews, especially as several of the species are very nearly allied to each other, yet the *Mentha*

sylvéstris, our Common Horse Mint, and the *Mentha satíva*, are probably the kinds referred to. The latter species, which by some botanists is called *M. arvénsis*, is very widely diffused, and occurs in Greece, in parts of Caucasus, in the Altai range, and as far as Cashmere. Dr. Royle says that the Horse Mint (*M. sylvéstris*) is the most common species in Syria, and observes that it was found by Russell at Aleppo, and mentioned by him as one of the herbs cultivated in the gardens there. It also occurs in Greece, Taurus, the Altai range, and Cashmere. This author quotes passages from Celsus and Pliny, proving the high estimate of mint among the ancient Jews. He remarks also that Dioscorides mentions it as useful to the stomach, and peculiarly grateful as a condiment. Mint was employed by the ancients in the preparation of many dishes. One very old use of mint is still retained in Holstein, in Germany, where, when the peasants lay in the tomb the remains of their departed friends, mint is carried by youths attending the funeral.

It is not unlikely that in former days more species were in common culture in this country, where now the Spearmint and Peppermint are the two plants chiefly selected. Our fathers had also their Crosse Mint, Browne Mint, Mackerel Mint, Curled Mint, Holy blackish Mint, Heart Mint, Red Mint, Fish Mint, and Brook Mint, besides some which, like Horse Mint, are yet known by their old English names. The Spearmint, as well as many other species, is doubtless a powerful carminative, and the medicinal preparations made from it are much more agreeable than those obtained from the

Peppermint, though they are not perhaps so useful. It contains much essential oil, and affords, as well as the oil, the spirit and water of mint, besides that a conserve is prepared from the herb. The conserve is very agreeable to those who like the flavour of mint, and the distilled waters, both simple and spirituous, are agreeable to many persons, and are useful in many forms of suffering. Large quantities of mint for the use of the druggist are grown in the villages lying about Mitcham, in Surrey. For more than a hundred years past many of the culinary, medicinal, and perfumery plants have been sent up to the London market from this neighbourhood. Hundreds of acres are covered with sweet and fragrant plants, diffusing at the season of their maturity the most delicious odours. These flowery fields are not, however, so lovely to the eye as an imaginative reader might suppose, for the plants, cultivated for use and not for show, are mostly arranged in formal rows, and are often of very low growth. Here and there a field of roses or of lavender may tint the landscape with brightened hues, and, like the humbler masses of mint and peppermint, give long and pleasant notice of their neighbourhood by the odours which are wafted by the summer breeze. Coltsfoot, Poppy, Wormwood, Aniseed, Chamomile, Deadly Nightshade, Liquorice, Horehound, and other plants used by the physician, the perfumer, or the maker of liqueurs, are cultivated there; and it is said that the owner of a large chamomile garden sometimes pays as much as a hundred pounds in a week to the women and children who are employed to gather in these medicinal flowers. Mitcham, Tooting,

Streatham, Croydon, and other villages, are surrounded by these useful gardens; and we occasionally find patches of the plants we have named cultivated to a smaller extent in Kent and other counties.

When used for medicinal purposes, the Spearmint is cut just when the flowers appear, and the herb-garden is then a very busy scene, as it is also some days after, when the plant is in full flower, as that is the season for gathering in mint when it is required for the essential oil, and in both cases it must be cut while the weather is dry. The south of Europe affords the chief produce of perfumery herbs, and Grasse and Nice are the especial seats of the art, affording as they do, by their geographical position, within short distances, such changes of soil and climate as are desirable for the growth of various scented plants. Thus, the grower at Nice can plant his cassia on the sea-coast, fearless of those winter frosts which, in our climate, would in one night destroy all the results of his industry. Nearer the Alps the climate is well adapted for the culture of his violets, which yield a better odour there than if reared in those warmer spots which suit so well the orange-flower and mignonette. But it is to the English gardener that the druggist and perfumer look for their mint, peppermint, and lavender; and the essential oils obtained from these herbs, when grown at Mitcham, obtain a much larger price than those of the sunnier climes of France or southern Europe, and have a sweeter and more delicate odour. It has been remarked, as a general observation, that though the flowers of warm climates have usually a more powerful odour, yet the more delicate fragrance is

afforded by the plants of moderately warm regions. But, as in all lands the great Creator has given beauty to flowers, so to some among them he has in every clime granted sweet odours.

Some idea of the value of odoriferous plants, as an article of commerce, is gained from the statement lately made in a popular journal. It mentions that one of the large perfumers of Grasse in France employs annually 80,000 lbs. of orange blossoms, 60,000 of Cassia flowers, 54,000 of violet flowers, 20,000 of tuberose, 16,000 of lilac flowers, besides mint, rosemary, lavender, thyme, orange, and other sweet-scented plants. It would be difficult to compute the amount of Mint and Peppermint grown in this country, but the wholesale druggists, and not the perfumers, are, in this kingdom at least, the great consumers of these two plants. In consequence of the great improvements of chemical science, it has, of late years, been found possible to imitate the scents usually procured from odoriferous herbs. Dr. Lyon Playfair, in a lecture to the society of Arts, observes:—"Perfumers, if they do not occupy whole streets, as they did in ancient Capua, show more science in attaining their perfumes than those of former times. The Jury of the Great Exhibition, or rather two distinguished chemists of that Jury, Dr. Hoffman and M. Delarue, ascertained that some of the most delicate perfumes were made by chemical artifice, and not, as of old, by distilling them from flowers. The perfumes of flowers often consist of oils and ethers which the chemist can compound artificially in his own laboratory. Singularly enough, they are generally derived from substances

of intensely disgusting odour. A peculiarly fetid oil, termed fusel-oil, is formed in making brandy and whisky." From this fusel-oil and various chemical preparations, the Professor adds, is obtained the oil of apples and the oil of pears, while the oil of pine-apple, now largely employed in making pine-apple ale, is procured from the action of putrid cheese on sugar. Oil of grapes and oil of cognac, used to impart the flavour of French Cognac to British brandy, are little else than fusel-oil; and the artificial oil of almonds, so largely employed in perfumery, is prepared by the action of nitric acid on the fetid oils of gas-tar. "Many a fair forehead," the lecturer remarked, "is damped with Eau de millefleurs without knowing that its essential ingredients are derived from the most disgusting sources. All these," says Dr. Playfair, "are direct modern applications of science to an industrial purpose, and imply an acquaintance with the highest investigations of organic chemistry. Let us recollect that the oil of lemons, turpentine, oil of juniper, oil of roses, oil of Copaiba, oil of rosemary, and many other oils, are identical in composition; and it is not difficult to conceive that perfumery may derive still further aid from chemistry."

4. *M. pipirita* (Peppermint).—*Leaves* stalked, egg-shaped, and lanceolate or oblong, serrated, upper leaves smaller; *bracts* lanceolate; *flowers* in loose, short, blunt spikes, interrupted below; *calyx* with awl-shaped teeth, quite smooth at the base; *root* perennial. A variety of this plant occurs with broad and rounded leaves, heart-shaped at the base, and with its flowers in very long spikes. The Peppermint appears to be a truly wild plant



1 [illegible]
Mentha piperita
2 WATER-CRESS-LEAVED M
M [illegible]
3 [illegible] L D M
4 [illegible]
M [illegible]
5 NARROW-LEAVED M
M [illegible]
6 [illegible]

on some of the river-sides and moist places where it is found, but has probably escaped from cultivation. It is often planted for its essential oil, which is used in lozenges and other confectionery, and so largely employed for medicinal purposes. Its stem and leaves are nearly smooth, and the spikes of purplish-lilac flowers appear in August and September. Its scent is much stronger than that of the Spearmint. Its essential oil exists in minute glands on the calyx and leaves, which are usually apparent to the naked eye.

5. *M. aquática* (Water Capitate Mint).—*Leaves* stalked, egg-shaped, serrated, rounded or slightly heart-shaped below, uppermost leaves like bracts, and shorter than the flowers; *flowers* at the summit of the stem in dense whorls, the highest forming a head, and sometimes also growing in axillary remote whorls; *calyx* tubular; *root* perennial. Several varieties of this Mint occur, in one of which the leaves are cut, toothed, and crisped; while in another the leaves, calyx, and flower-stalks, are quite smooth. We have often thought, when, in August and September, we have seen the rounded heads of pale bluish-lilac flowers of this Mint peeping up from among the shallow waters, or clustering on some little islet of the stream, that it far out-rivals most of its family in beauty. Its flowers are of a bluer tint than any other species; its leaves are downy, and in wet places, where it luxuriates, it often forms large masses one or two feet high. It is the commonest of all the Mints, and were it not for its strong and unpleasant odour, would be a good addition to the wild-flower nosegay of autumn. This odour, however, has its uses, for Dr.

Johnston tells us, in his "Flora of Berwick-on-Tweed," that Mr. Macdonald of Scalpa in the Hebrides, having had much injury done to his wheat by the depredations of mice, gathered a quantity of this plant from a neighbouring brook, and placed it among his wheatsheaves, after which they remained untouched by these animals. He then put the mint with cheese and other articles, then in store, which had formerly been much injured by mice, and found the plan successful, the mint, both in its fresh and dry states, effectually repelling the intruders.

** * Flowers in axillary, distant whorls.*

6. *M. satíva* (Marsh whorled Mint).—*Leaves* stalked, egg-shaped or elliptical, serrated, upper ones similar but smaller, all longer than the whorls; *whorls* all distant, dense; *calyx* with lanceolate sharply-pointed teeth. This plant is subject to great changes, being in various forms more or less hairy. The authors of the "British Flora" remark of the mints in general:—"Nearly all the species are hairy, with serrated leaves, but are subject to two principal variations, viz. to be almost entirely smooth, in which case the flower-stalks and lower part of the calyx become quite smooth, and the odour of the species is milder and even pleasant; and to have the leaves cut and crisped. This latter is more strictly a monstrosity, and is sometimes accompanied with a considerable change in the inflorescence." The Marsh whorled Mint grows on the banks of rivers or moist hedgebanks, and in copses. It has distant

whorls of numerous reddish lilac flowers, which expand in July and August.

7. *M. arvénsis* (Corn Mint).—*Leaves* stalked, egg-shaped or elliptical, sometimes heart-shaped at the base, serrated, upper leaves similar, and equally large; *calyx* bell-shaped, in some varieties downy, in others smooth, having triangular acute teeth, about as broad as long; *root* perennial. This very variable species is nearly allied to the last, its most marked difference being in the form of its calyx-teeth. The wanderer in the corn-fields at that pleasant season in which the labourer is gathering in his harvest, is very likely to see this mint cut down by the scythe, or to find it at a later season springing up among the stubble. It is one of the commonest species of mint. The stem is from six inches to a foot in height, and it has whorls of small lilac flowers in August and September. The smell is in the ordinary form of the plant powerfully unpleasant, and has been not unaptly compared to that of decayed cheese. It has carminative properties, and has sometimes been employed as a stomachic medicine. Its stem is more or less branched, and is, in some of its varieties, much tinged with red, in others bright green, and some of these are of a mild and pleasant odour.

8. *M. praténsis* (Narrow-leaved Mint).—*Leaves* nearly sessile, egg-shaped, lanceolate, acute and serrated, upper ones similar, all longer than the whorls; *calyx* bell-shaped, glandular, lower part smooth; *teeth* triangular; *root* perennial. This is a very rare plant of marshy places. Its stem and leaves are usually smooth, and the latter are paler on the under surface, and glandular.

The flowers grow in August and September in distant, almost globular whorls. Some writers doubt if the species is indigenous.

9. *M. Pulégium* (Penny-royal).—*Flowers* whorled; *leaves* egg-shaped, downy, blunt, slightly serrated; *stem* prostrate; *flower-stalks* and *calyx* downy, the mouth of the latter closed with hairs; *root* perennial. This species is very unlike the others, and is readily known by its prostrate stem; it is also smaller than our other wild kinds of Mint. It is a common plant near streams or bogs, and has a most powerful odour, which some persons think agreeable. Its purple flowers appear in June and July, the uppermost axils of the leaves being usually empty. It is frequently planted on the little plot of the cottage-garden—

> "The Thyme strong scented 'neath one's feet,
> The Marjoram beds so doubly sweet,
> And Penny-royal's creeping twine,
> These, each succeeding each, are thine."

It is still deemed a useful medicinal herb, and an exaggerated idea of its properties probably won for it its epithet of Royal. The French also term it *Pouliot royal.* A tea made from its leaves is an old village remedy for colds and coughs, and all the old simplers describe it as "good and wholesome for the lungs," while Gerarde said that a garland of the plant worn about the head would "cure giddiness." The leaves of this herb often curve downwards, and are sometimes covered with short hairs. The whole plant is pungent, with a slight flavour of camphor, and its odour, especially when bruised, is very powerful. Parkinson says of this



herb,—"It used to be put in puddings and such like meates of all sortes, and therefore in divers places they call it Pudding-grasse. The former age of our great-grandfathers had all these hot hearbes in much and familiar use, both for their meates and medicines, and therewith preserved themselves in long life and much health; but this delicate age of ours, which is not pleased with anything almost, be it meat or medicine, that is not pleasant to the palate, doth wholly refuse these almost, and therefore cannot be partakers of the benefit of them."

Many writers have believed the Penny-royal to be the Dictamne of the ancients. Virgil told how the deer ate of the plant, and were cured of the wounds inflicted by the huntsmen's arrows, a legend often alluded to by our own poets. Thus Stirling, in his "Aurora," says:—

> "And whilst I wander, like the wounded deer,
> That seeks for Dictamne to recure his scarre."

The plant commonly called Dittany of Crete is a pretty species of Marjoram, brought from Candia, with pink flowers in nodding crowded spikes. We often see this plant in flower-pots in cottage windows. It is sometimes called Hop Marjoram.

4. Thymus (Thyme).

1. *T. Serpyllum* (Wild Thyme).—*Flowers* in heads or whorled; *stems* branched, hairy; *leaves* flat, egg-shaped, blunt, more or less fringed at the base, stalked; floral leaves similar; upper lip of the corolla notched; *root* perennial. Those who love to wander over breezy hills, where the sheep are scattered far

and wide about the landscape, well know the Wild Thyme. During July and August, many an open lonely tract of our scenery is purpled over with its flowers, which are bringing fragrance to wide-spread heath, or grassy moorland, or sunny bank, or chalky sea-cliff, and forming aromatic tuft-like cushions, on which the rambler may repose to listen to murmuring bees and low whispering airs. Often as we have gone over such hills on some Sabbath morning, summoned by the welcome bell to the House of Prayer, we have, as we looked on the flock, been reminded of the shepherd's boy whom Graham describes as watching his sheep, on the thymy hills of Scotland:—

> "Nor yet less pleasing at the Heavenly Throne
> The Sabbath service of the shepherd boy,
> In some lone glen where every sound is lull'd
> To slumber, save the tinkling of the rill,
> Or bleat of lamb, or falcon's hovering cry;
> Stretch'd on the sward he reads of Jesse's son,
> Or sheds a tear o'er him to Egypt sold,
> And wonders why he weeps; the volume closed,
> With thyme-sprig laid between the leaves, he sings
> The sacred lays, his weekly lesson, conn'd
> With meikle care, beneath the lowly roof
> Where humble lore is learnt.
> Thus reading, hymning, all alone, unseen,
> The shepherd boy the Sabbath holy keeps."

So refreshing is the perfume of the Thyme, that we wonder not that the old Greeks gave to the plant a name expressive of strength or courage, in the belief that it renewed the spirits both of man and animals, though they certainly ascribed to the slightly tonic and stimulating properties of the herb a higher praise than

they deserved. Thyme tea is yet in good favour in villages, and many a tuft of the closely allied garden Thyme is still to be seen on the cottage plot, and is gathered for that purpose. Often, too, perhaps, it is looked upon by some moralizing matron, to whom it is significant of the mingled weal and woe of daily life, as she remembers the old proverb, "Rue and thyme grow baith in ae garden." The plant was, in the opinion of our fathers, "a noble strengthener of the lungs, as notable a one as grows;" and in some of the earliest manuscripts of this country, it was recommended for those who were "streyt ondyd," that is, short-breathed.

Besides its use as an infusion, and in various liquid preparations, an ointment was made from Thyme blossoms which was considered very healing. The leaves bruised, and laid upon the part stung by a bee or wasp, were thought to allay the irritation. Parkinson says of this herb: "Thyme is a speciall helpe to melancholicke and spleneticke disease. The oyle that is chymically drawne out of ordinarie thyme is used, as the whole herbe is, in pils for the head and stomacke. It is also much used for the tooth-ache, as many other such-like hot oyles are." The substance now sold as a remedy for tooth-ache by the name of Oil of Thyme, is made, however, from the Marjoram. Mr. Purton, whose medical, as well as botanical science, renders him a good authority in such matters, considers an infusion of the leaves of wild Thyme good for head-ache, and says it is reputed to be an infallible cure for nightmare; and Linnæus recommended its use for pains in the head. The plant yields camphor by distillation, and an infusion

of its leaves may probably be taken with advantage by nervous persons. Bees are very fond of its flowers, and these are very pretty, in their deep purple tint, varying to pale lilac, and clustering amid their chocolate-coloured floral leaves. The plant is common on dry places in most European countries, and it forms a thick turf on some of the fields of Iceland, among which the whortleberries, bearberries and cranberries flourish in abundance; while with its frequent companion, the Marjoram, it grows on the Himalayan mountains of India, at the height of 8,200 feet above the sea. The Germans call this plant *Thimian;* the French, *Thym;* the Dutch, *Gemeene thym;* the Italians, *Teino;* the Spanish, *Tomillo;* the Poles, *Tym;* and the Danes, *Timian.* The old French writers term it *Pouliot-thym,* and *Pillolet,* and it was formerly called in this country, Puliall Mountaine, Pella Mountaine, and had besides the names of Running Thyme, Creeping Thyme, Mother of Thyme, and Shepherd's Thyme. Its leaves laid near the resorts of mice are said to drive these animals from the place.

Old writers, both in prose and verse, tell how sheep are improved by feeding upon Thyme; but the fact is, that these animals, except by accident, or when driven by hunger, leave untouched the aromatic herbs supposed to be so beneficial to them. But the Thyme grows on downs and commons where the air is pure and bracing and the pasturage sweet; and sheep seem to have been destined rather for hilly and mountainous, than for lowland pastures and turnip fields, though they can be accommodated to the latter conditions.

The wild Thyme varies much in different situations, not only in the degree of hairyness of its stems and leaves, but also as to size and odour. Sometimes, instead of the dark green glossy foliage, we find specimens with leaves white with down, and occasionally the flowers are white. When growing on dry exposed situations it is small and prostrate, but when beneath the shelter of furze or broom it has a stalk a foot or more high.

Mr. Babington has recently expressed his opinion that two species of Thyme are included in that described as *serpyllum*; one is *T. Chamædrys*, the other the true *T. Serpyllum*, but as the difference is chiefly in their habit of growth, they require to be examined while growing. He remarks, "In *T. Serpyllum* there is a difference between the flowering shoot and that intended to extend the plant. Quite prostrate and rooting shoots are produced each year, which grow from the end of the shoots of the preceding year, and do not flower; also there spring from the other axils of these old prostrate parts of the plant short erect or ascending shoots, which form a linear series, and each of which terminates in a capitate spike, consisting of a very few whorls, and which die back to the base after the seed has fallen. The growing shoot is perennial, but the flowering shoot is annual. In *T. Chamædrys* there is no such manifest separation between the flowering and young shoots. The terminal bud often produces the strongest shoot, which itself ends in flowers, differing thus from the terminal shoot of *T. Serpyllum*, which always ends in a flowerless shoot. It wants the regularity of

T. Serpyllum, and presents a dense irregular mass of leafy shoots and flowers intermixed."

The garden Thyme is a native of southern Europe; it is largely cultivated in herb gardens for the London market. It has the same qualities as the wild Thyme, yielding camphor in distillation with water. It is in Spain infused in the pickle used to preserve olives, and before the introduction of Oriental spices entered largely into the cookery of all European countries.

5. Oríganum (Marjoram).

1. *O. vulgáre* (Common Marjoram).—*Leaves* stalked, broadly egg-shaped, blunt, sometimes slightly toothed; *bracts* egg-shaped, longer than the calyx; *flowers* in crowded panicles; *root* perennial. Our hilly, chalky districts, bright as they are with the many flowers which thrive on their soil, would yet miss much of their autumnal beauty if they were deprived of their masses of Marjoram—

"The Marjoram sweet in shepherds' posies bound."

On dry sunny hedge-bank, on towering cliffs, enlivening the road-side for miles together, the handsome and fragrant flowers are very common, and, as we see them on some rounded hill, we remember how both in this and other lands they are blooming in such elevations as to deserve their pretty and expressive name, "Joy of the Mountain." All about Dover the flower is most plentiful—so plentiful, that when we find Shakspeare making the words "Sweet Marjoram" the pass-words between King Lear and Edgar, we feel how likely the walk

towards the cliffs would be to suggest it. Near the conspicuous cliff which yet bears the name of the poet, Samphire and Marjoram still bloom within sight of

"The dread summit of that chalky bourn;"

and many a panting man climbs "to the top of that same hill, that horrible steep," and says now what Edgar is represented as saying then—

"Hark! do you hear the sea?"

Village people often gather during autumn large quantities of Marjoram, some of which is used while fresh for herb tea, while some is tied up in bunches and hung to dry for winter service. The infusion is very grateful and refreshing, and doubtless is wholesome, though its efficacy in preserving health may be somewhat overrated by country people. In some parts of Northern Europe the plant is collected to put into ale, which it not only preserves from becoming sour, but also renders more intoxicating. The juice of this herb is highly stimulating, and is useful to allay rheumatic pains, as well as tooth-ache. It is also very properly applied to sprains and bruises, and is said to be a good remedy for the falling off of the hair, an opinion which is most probably correct, as it possesses some of the same properties as the rosemary, a most useful plant for that purpose. The dried leaves are used in fomentations to allay pain. Both flowers and leaves are aromatic, and their odour seems to have been much valued in former years. Parkinson says, "The sweete marjeromes are not only much used to please the outward senses in nosegaies, and in the windowes of houses,

as also in swete powders, swete bags, and swete washing waters, but are also of much use in physicke, to comfort the outward members and parts of the bodie, and the inward also."

The essential oil of this plant is, when undiluted, so acrid that it may almost be termed caustic. It is secreted in abundance in the leaves and stems, and is the cause of its fragrance. Professor Burnett remarks, "Fee observes, that odoriferous plants exhibit three remarkable variations; in some the aromatic principle is free, and then it is dissipated by drying; this occurs chiefly in flowers such as the Tuberose and Jessamine, and it is not communicable either to water or spirit, and seems to be artificially retained only by the aid of fixed oils; while occasionally, as in the Lily and Narcissus, it cannot be retained at all. In some the aromatic principle is in union with, or is peculiar to the essential oil with which the utricles or cryptæ are replete, and in this form it is miscible with water and alcohol, but scarcely with fixed oils. In others, again, it is in combination with a resin, or gum-resin, and then it may be collected in concrete masses by wounding the plants, or if by distillation it deposits camphor after standing for some time. The fragrance of the Labiatæ is dependent on an essential oil, or odoriferous principle of the latter kind, and their oil is remarkable for the quantity of camphor it contains." The camphor yielded by our wild Marjoram and Thyme has caused the juice of these plants to be frequently used as an ingredient of various compositions intended to avert infection.

The Marjoram bears its flowers in roundish crowded

clusters. They are purple, with floral leaves tinged with something of the same hue, but usually darker, almost chocolate coloured. They expand in July and August. The plant is sometimes called Wild Organy. The French term it *Marjoraine;* the Germans, *Majoram;* the Dutch, *Mariolein;* the Italians, *Maggiorana;* the Spanish, *Mejorana.* The long-disputed Oregon territory is said to have derived its name from the abundance of Marjoram found there.

6. Teúcrium (Germander).

1. *T. Scorodónia* (Wood Germander, or Wood Sage).—*Leaves* heart-shaped, oblong, stalked, wrinkled, crenate, downy; *floral leaves* small; *flowers* in lateral and terminal one-sided racemes; upper lip of the *calyx* undivided, egg-shaped, lower with four teeth: *root* perennial. When walking in woods during July and August we often find large masses of this Wood Sage, for it is a social plant, and we rarely meet with a solitary specimen. It grows also on banks, by road-sides, on dry heaths among bushes, or on cliffs by the sea, as on those of Dover. The erect stem of the plant is one or two feet in height, and its wrinkled and strongly-veined leaves are somewhat like those of the Sage, but of a more yellowish green. The flowers grow in a one-sided cluster. They are of a yellowish green colour, sometimes having a faint tinge of purple, and the stamens are pinkish purple. We often pass by this plant with little notice, but our fathers regarded it with great interest, for they considered its bitter juices very medicinal, and it is not unlikely that they used the Ambrosia,

as they called it, as we know they used some other labiate plants, in brewing ale. Mr. Curtis, referring to Jersey, says, "When cider, the common beverage of the island, has failed, I have known the people each to malt his barley at home, and instead of hops use, to very good purpose, the Ambrosie of their hedges." The beer is said sooner to become clear by the use of this plant; but Dr. Withering remarks, that it gives the liquor too dark a colour. Of all our native bitters this has certainly most resemblance to the flavour of the hop, and he who should taste either leaf or flower would immediately be reminded of that plant. M. Laurent, remarking, in "Young's Annals of Agriculture," on this Wood Sage, says, "Seeing so much fine ground under costly hops, I could not but repine at the expense of soil, poles, and labour bestowed upon the plant, when there is good reason to suppose that the *Teúcrium Scorodónia* would better answer the purpose. Its virtues remain to be tested by experiment, and may, in a great measure, be conjectured by those of its congeners." This plant is often called Garlic Sage, because, when bruised it has a slight odour of garlic, and it is said that if cows feed upon it, it communicates the flavour of that plant to their milk. It is, however, rarely touched by these animals, though readily eaten by sheep and goats. Our fathers had a variety of names for this plant. It was called *Ambrosia salgia, Ache champestre* and *Wylde sawge;* and Cotgrave describes it as "the herbe called oke of Cappadocia."

2. *T. Scórdium* (Water Germander).—*Stem* procumbent below; *leaves* sessile, oblong, either narrowed or

broad, and heart-shaped below, toothed, green on both sides; *floral leaves* similar; *flowers* whorled, axillary, distant, 2—6 in a whorl; *calyx-teeth* equal; *root* perennial. This is a rare species, occasionally occurring in low wet meadows. It is about half-a-foot in height, and bears purple flowers in distant whorls during July and August. It is more or less hairy according to its situation, and has, like the last species, an odour of garlic. It was formerly used medicinally, and supposed to be useful against infectious diseases.

3. *T. Chamædrys* (Wall Germander).—*Leaves* egg-shaped, cut, and serrated, wedge-shaped, and entire at the base, green on both sides; *floral leaves* smaller, nearly entire, whorls of 2—6 flowers; *calyx* teeth lanceolate, nearly equal; *root* perennial. This species has a much-branched stem, of which the lower part is woody, and it bears in July large and handsome purple flowers, marked with darker lines, generally about three together in the axils of the upper leaves. It is found near old ruins, and occasionally on field borders, but it is a rare plant. It is plentiful on the city walls of Norwich, and occurs also on Winchester Castle. It is probably not a truly wild plant. It was formerly calle Ground Oak. The French term the plant *Germandrée*, which is an evident corruption of the old name *Gamandrée*, under which name it first appeared in a very rare Herbal of Mayence, printed in 1485.

4. *T. Bótrys* (Cut-leaved Annual Germander).—*Stem* ascending; *leaves* 3-cleft, or pinnatifid, with oblong, entire or cut segments, green on both sides; *floral leaves* similar, whorls axillary, 4—6-flowered; *calyx*

inflated at the base, teeth lanceolate, equal; *root* annual. This plant is very rare, and is a doubtful native. Its central stem is erect, with ascending branches, and it has numerous pale purple flowers. It has been found at Box Hill, Surrey.

7. Ájuga (Bugle).

1. *A. réptans* (Common Bugle).—*Stem* erect, with creeping scions at the base; *lower leaves* egg-shaped, or inversely egg-shaped, either cut or quite entire, tapering into a footstalk, all smooth, or slightly downy; *root* perennial. This pretty flower is very common in moist woods, hedges, and pastures, during May and June. It has a solitary tapering flowering stem, from six to nine inches in height, from the base of which the creeping scions extend over the grass. They are a foot or more in length. The flowers grow in dense whorls, which are crowded closely together so as to form a spike, and their colour varies from deep purplish blue to pale lilac or white, while the floral leaves are as purple as the blossoms. The plant is scentless and tasteless, and a slight degree of astringency seems to be its only virtue; but it was highly extolled by old writers as a remedy for pulmonary affections, and was greatly praised as an application for wounds. It was called Middle Comfrey, Consolida minor, Bugula, Brown Bugle, Sicklewort, and Carpenter's Herb. The French call it *Bugle;* the Germans *Günsel;* the Dutch *Senegroen;* and the Italians *Bugola;* and a very old French name for this plant is *Herbe de St. Laurent.*

2. *A. pyramidális* (Pyramidal Bugle).—*Stem* solitary


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without scions; *leaves* oblong, entire or crenate, root-leaves tapering at the base, stem-leaves sessile, upper ones longer than the flowers; *flowers* whorled, forming a four-sided pyramidal spike; *root* perennial. This is a very rare Highland plant, but is plentiful at the Burn of Killigower and on the Ord of Caithness. Its stem is from four to six inches high, and its flowers, which expand in May and June, are bluish purple. The whole plant is sometimes hairy.

3. *A. alpina* (Alpine Bugle).—*Stem* erect, hairy, its leaves egg-shaped, lanceolate, blunt, narrowed at the base, lower ones rather longer, stalked; *floral leaves* three-lobed, the uppermost entire; *flowers* in distinct whorls; *root* perennial. This mountainous Bugle is very rare. It has been found at Castleton in Derbyshire, and some other spots in England, as well as on Cave Hill, Belfast. Some botanists describe the plants with, and others without, scions; and some uncertainty yet remains on this question.

4. *A. Chamæpitys* (Ground Pine or Yellow Bugle).—*Stem* much branched, spreading; *leaves* deeply three-cleft, segments linear and entire; *floral leaves* similar, longer than the flowers; *flowers* solitary and axillary; *root* annual. This plant is well called Ground Pine, as its narrow leaves look like a tuft of foliage taken from the pine-tree, only that their colour, instead of being dark, is of sea-green hue, and the yellow flowers, spotted with red, are almost hidden among them. This species differs altogether in its general appearance from the others of the genus. Its stem is about three or four inches high, reddish purple, and glutinous; and the

whole plant is somewhat hairy. It is in flower from May to September. It is by no means a common plant, but it is plentiful on sandy and chalky fields in some counties, as Essex, Kent, and Surrey. The author has found it occurring on several spots about Upnor, on the banks of the Medway. Our fathers called it by the name of Herb Ivy, though for what reason is not apparent. It was also called Field Cypresse, and both English and German writers of Queen Elizabeth's time called it Forget-me-not. The plant contains a slight amount of tannin, and was believed formerly to afford a very useful medicine for gout. Charles V. is said to have been cured of that malady by drinking a vinous infusion made of the herb; "at least," observes Professor Burnett, "he got better after he had taken the medicine for sixty successive days; which, as a rare example of patience and implicit obedience to medical authority, deserves to be recorded."

8. Ballóta (Horehound).

1. *B. nígra* (Black Horehound).—*Leaves* egg-shaped, serrated; *bracts* linear, awl-shaped; teeth of the *calyx* pointed, spreading, longer than the tube of the corolla; *root* perennial. A variety of this plant, in which the calyx-tube is shorter and stouter, the teeth short, suddenly pointed, tipped with a spine, keeled and turning downwards, is, by some writers, described as *B. fœtida;* while another, having the calyx-tube narrow, elongated, and widely spreading upwards, with awned, egg-shaped, erect and spreading teeth, is described as *B. ruderális*. Large quantities of the Black Horehound



1 BLACK HOREHOUND
Ballota nigra

4 DOWNY H N

might be gathered from almost any hedge or road-side, often covered with the dust of the road, and never having any brightness, either of leaf or blossom. The foliage is wrinkled, of a grey green, and the numerous whorls of flowers which from June to October invest the upper portion of the stem, are of a dull faded-looking purple hue. The stem is two or three feet in height, and the whole plant has a very disagreeable odour. It is not often seen in woods and hedges, far away from houses; but there are few English villages or towns, except in the northern counties, in or near which we might not find it. It is one of those plants which follow man, and besides being pretty general all over Europe, it is to be found in Australia wherever the English colonist has come, and the Horehound raises its tall stem by many of the sheep-stations of that country. The French call it *Ballote*, the Germans *Zahnlose*, the Dutch *Ballote*, and the Italians *Marrobio*. The Swedes think it a remedy in almost every disease to which cattle are liable.

9. Leonúrus (Motherwort).

1. *L. Cardíaca* (Motherwort).—*Leaves* stalked, lower ones palmate, 5-cleft and toothed, upper ones lanceolate and wedge-shaped, 3-lobed, the uppermost almost entire; *root* perennial. This plant, though found in hedges and on waste places in several parts of England, is not common. The Author has gathered it in the neighbourhood of Saltwood Castle, near Hythe, in Kent. It occurs in Scotland occasionally, as about Edinburgh. It is easily distinguished from any other plant of the

Labiate order by the palmate form of its lower leaves. Its foliage is of dull green, and the branched stem about three feet in height. The flowers expand in August, and form thick whorls of purplish pink, or sometimes white, hairy blossoms, with a downy upper lip. Its name of *Cardíaca* was given because the plant was formerly supposed to cure, not alone heart-burn, but the mental malady figuratively called heart-ache. It is slightly astringent, and has been used in Russia as a remedy for canine diseases. It has a very bitter and disagreeable flavour, and an unpleasant odour. The French call the plant *L'Agripaume*, and it is the *Hartgespan* of the Dutch, the *Herzgespann* of the Germans, and the *Agripalme* of the Italians and Spanish. An old herbalist says of it:—"There is no better herb to drive away melancholy; and against vapours, to strengthen the heart and make a merrie blythe soul than this herbe; therefore the Latins call it *Cardíaca*. It may be kept in syrup or conserve." The seeds of this plant are numerous, and are round and black.

10. Galeópsis (Hemp-nettle).

1. *G. Ládanum* (Red Hemp-nettle).—*Stem* either smooth or covered with soft down, not swollen below the joints; *leaves* lanceolate, slightly serrated, rather small, stalked, downy on both sides; *calyx* having sometimes a few glands; upper lip of the *corolla* slightly notched; *root* annual. This plant is not unfrequent in gravelly and sandy fields, having, in August and September, purple flowers, mottled with crimson and white, and shaggy externally. It often grows on limestone rubbish,

and a variety of the plant with narrow, almost entire leaves, has been found at Southampton, among the shingles of the beach. The stem is nearly a foot high, with opposite branches.

2. *G. ochroleúca* (Downy Hemp-nettle).—*Stem* downy with soft hairs, not thickened at the joints; *leaves* egg-shaped, lanceolate, serrated, soft and downy on both sides, upper leaves egg-shaped; *calyx* glandular, shaggy with closely-pressed hairs, with a few gland-tipped hairs intermixed; upper lip of the *corolla* slightly notched; *root* annual. This rare plant, the stem of which is from ten to twelve inches high, bears its large pale yellow flowers in July and August. It has been found in sandy cornfields in Yorkshire and Lancashire, at Berechurch in Essex, and some other places in England and Wales.

3. *G. Tetráhit* (Common Hemp-nettle).—*Stem* bristly, swollen below the joints; *leaves* egg-shaped, pointed, serrated and bristly; *calyx teeth* twice as long as the tube; *corolla* with the tube as long as the calyx, upper lip egg-shaped, erect; *root* annual. This is a common plant in cornfields, just about the season when the wheat is ripening. In some fields, especially where the soil is of chalk or gravel, the flower may be seen ornamenting the short stubble long after the gleaners have carried away the scattered ears, and blooming on till the winds of November are fast scattering leaf and blossom. It also occurs sometimes in woods. It is an erect slender plant about two feet high, with opposite spreading branches, having numerous whorls of flowers, variegated with bright but pale purple and yellow, sometimes of a white

tint, delicately tinged with purple. The whorls of flowers are remarkable for the long sharp teeth of their calyxes, and the stems are very much swollen beneath each pair of leaves. Dr. George Johnston tells us in his "Flora of Berwick," that labourers in the harvest-field are sometimes affected with a severe inflammation of the hand or of a finger, which they uniformly attribute to the sting of a Dog-nettle, the name by which this plant is known among them. "On examining its bristles," says this writer, "we perceive that they consist of three or four tubular joints, and arise from a swollen base or vesicle. On the upper part of the branches, on the calyxes and flowers, they are intermixed with others tipped with a gland. Now the former seem fitted by their structure for containing and emitting a fluid; and though in general too soft to wound, yet by chance, when rudely pressed, they may perforate the skin, and lodge their contents, which must be virulently poisonous, if the opinion of the cause of the disease be correct." It is not, however, impossible that the inflammation suffered by reapers may be caused by the Stinking Chamomile (*Anthemis Cotula*). The author of these pages could never excite any irritation on the skin by handling the Hemp-nettle, though the Chamomile readily causes irritation. All persons are not, however, similarly affected by the same plants, and she has known the hands of some inflamed by the Yarrow (*Achilléa Millefolium*), though on her own skin it failed to produce any effect.

Our British species of Hemp-nettle do not appear to possess any medicinal virtues, but the *G. grandiflora* is



1 YELLOW WEASEL SNOUT
Galeobdolon lu'eum

2 WHITE DEAD NETTLE.
Lamium album

3 RED D N.
L. purpureum

4 CUT LEAVED D N.

5 INTERMEDIATE D N
L. intermedium

6 HENBIT L
L. amplexicaule

thought by physicians to have been very serviceable in pulmonary complaints. The French call these plants *Galeope;* the Germans, *Taube nessel;* the Dutch, *Knoopige hondsnetel.* The latter term this and several plants of the Dead-nettle kind *Ortica morta.*

4. *G. versícolor* (Large-flowered Hemp-nettle).—*Stem* bristly, swollen below the joints; *leaves* oblong egg-shaped, pointed, bristly and serrated; *calyx-teeth* shorter than the tube; *corolla* with the tube much longer than the calyx, upper lip horizontal and inflated; *root* annual. This species appears, in a written description, very similar to the last, yet it is quite different when seen growing in the corn-field. It is a common plant in the Scottish corn-lands, but very local in England. It is a larger, coarser looking herb than the common Hemp-nettle, often two or three feet in height. The flowers expand in July and August, and are large and conspicuous, the yellow corolla having a broad purple spot on the lower lip. It is in Scotland called Bee-nettle.

11. Galeóbdolon (Weasel-snout).

1. *G. lúteum* (Yellow Weasel-snout, or Archangel).—*Leaves* egg-shaped, pointed, stalked, and deeply serrated; *flowers* in whorls; *root* perennial. We do not wonder that Gerarde disputed much whether this plant should not be included in the genus *Lámium.* It very much resembles the white Dead-nettle in form, and its blossoms are of about the same size, and, except in colour, very similar. It is usually, however, rather a taller and less erect plant, with narrower and more pointed leaves. The flowers, which in May and June grow in numerous

whorls around the upper part of the stem, are bright yellow, more or less marked with patches of orange red. The stem is about two feet high, and its leaves are often variegated with dashes of pale yellow. It is a local plant, but is very common in many shady woods in England, and may sometimes be seen in woodlands in Kent, where the trees have been cut down, growing in such abundance as to render some spots of their surface of a yellow hue. It is commonly called Yellow Archangel, and is *L'ortie morte des bois* of the French. The Germans call it *Gelbe hanfnessel*, and the Dutch, *Geelbloemige hondsnetel*. It grows in many European countries, and is known in Norway, Sweden, Lapland, Germany, Switzerland, Austria, and Italy. Its properties are slightly astringent.

12. Lámium (Dead-nettle).

1. *L. álbum* (White Dead-nettle).—*Leaves* heart-shaped, pointed, deeply serrated and stalked; *calyx-teeth* long, awl-shaped, spreading; tube of the *corolla* curved upwards, the throat dilated, upper lip oblong, the side lobes of the lower one with 1—3 awl-shaped teeth; *root* perennial. Several varieties of this plant occur. In the ordinary form the flowers are white, with black anthers and spotless leaves; in another white-flowered form, the leaves have white blotches. There are besides occasional specimens with purple flowers, in some cases with spotless, in others with blotched foliage. Everybody knows the White Dead-nettle, for it springs up by our pathway on sunny or shady bank or field-border, in abundance,

in May, and when the cold blasts of December are nipping most plants, we find it still lingering beneath some hedge, its white blooms soiled and stained, and rent by wind and weather. Country boys make whistles of its square stalks, and bees gather honey from its flowers, but its odour is very disagreeable, and cattle will not eat it while any other herbage is within their reach. The flower is, in its common form, pure white, with black anthers, but we know a bank in Kent on which masses of the plant have grown, summer after summer, with very pretty rose-coloured blossoms, though not differing in any other respect from the common condition of the White Nettle. The stem is usually about a foot high, and the leaf sufficiently like that of the Stinging-nettle to render many persons afraid to touch it. The stingless nature of the leaves, however, induced our fathers to call the plants of this genus not only Dead-nettles, but also Blind or Dumb-nettles. In that old work, the "Promptorium parvulorum," or Anglo-Saxon Dictionary, recently published by the Camden Society, we find the Archangel called *Deffe nettil*. The Editor, Mr. Albert Way, remarks of the adjective: "It is applied to that which has lost its germinating power: thus in the North, as well as in Devonshire, a rotten nut is called 'deaf,' and barren corn is called 'deaf corn,' an expression literally Anglo-Saxon. An unproductive soil is likewise termed 'deaf.' The plant *Lamium*, or Archangel, known by the common names Dead or Blind Nettle, has the epithet 'deffe,' evidently because it does not possess the stinging property of the true Nettle."

Linnæus says, that the leaves of the White Archangel are eaten in spring as a potherb. The French call the plant *L'ortie blanche*. The purple-flowered variety with spotted leaves is, by some botanists, described as a species, under the name of *L. maculátum*, and is often cultivated in gardens.

2. *L. purpúreum* (Red Dead Nettle).—*Leaves* heart-shaped, crenate, all stalked, the upper ones crowded, the lower ones hanging downwards on long stalks; *teeth of the calyx* as long as the tube, always spreading; *tube of the corolla* straight, within, having a hairy ring, the throat much dilated; *side lobes* of the lower lip with two short teeth; *root* annual. This plant is readily known by the reddish purple tint of its floral leaves, and the silky hairiness with which the upper, and sometimes the lower leaves, also, are invested. It is truly a red nettle, and its whorls of reddish corollas are scarcely brighter than the purple red leaves among which they grow. Large quantities of the plant may be found on most English hedgebanks, often forming masses there, as well as on the borders of meadow-land, or in corn-fields. It is in blossom throughout the summer, but we scarcely notice so dull and weed-like a plant when gayer blooms are expanding around us, though the lover of wild flowers looks upon it with favour in February or March, when it is almost the only blossom; or cherishes it in the latest nosegay which he can, in autumn, gather from lane or field. It usually grows to the height of a foot or a foot and a half. The author is informed by a friend, that he has seen the roots of this plant boiled by cottagers for the food of pigs, and that it affords excel-

lent nourishment for these animals. It was certainly used in this country in very early times for pottage. Pottage was by the old writers called "jowtes," or "joutes," and Gower speakes of Diogenes' gathering joutes in his garden. Mr. Albert Way quotes from the Sloane MS. a list of plants for compounding joutes: "Cole, borage, persyl, plumtre leaves, redde nettil crop malves grene, rede briere croppes, avans, violet, and prymrol." These were to be ground in a mortar and boiled in broth. We fear that few modern palates would be gratified by the preparation.

3. *L. incísum* (Cut-leaved Dead-nettle).—*Leaves* broadly heart-shaped, deeply cut into teeth at the edges, all stalked, upper ones broadly egg-shaped and crowded, the uppermost being wedge-shaped at the base; *calyx teeth* always spreading, and as long as the straight tube, which is without hairs within; *root* annual. This species has its dull purple flowers from March till June. It is common on waste ground, and very difficult to distinguish from the last, with which some botanists consider it ought to be united. Its stems are either few, slender and elongated, or thick, short, and numerous.

4. *L. intermédium* (Intermediate Dead Red Nettle).—*Leaves* blunt, cut, and crenated, lower ones stalked and kidney-shaped, upper ones sessile, somewhat crowded; *teeth* of the calyx awl-shaped, longer than the tube, always spreading; *tube* of the corolla straight, naked within; *side lobes* of the lower lip with a short tooth; *root* annual. The purplish coloured flowers of this species expand from June to September. It is a dull-looking plant, about a foot high, its calyxes usually

tinged with purple. It is common in Scotland on cultivated and waste lands, and occurs at Newport, in the Isle of Wight, as well as in several parts of Shropshire.

5. *L. amplexicáule* (Henbit Nettle).—*Leaves* roundish, heart-shaped, deeply and bluntly cut, upper sessile and clasping, lower stalked; *calyx* teeth green, longer than their tube, erect after flowering; *tube* of the corolla straight, naked within; *root* annual. This is a prettier species than any other of the purple-flowered Dead Nettles, for its corollas are of so much richer tint, being of a fine deep reddish purple, on very long tubes. Sometimes they are small, and do not expand, but yet the anthers are fertile, and the fruit, consisting of four small nuts, is produced. The plant is about half-a-foot or a foot high; the stem is slender, and as it lengthens the floral leaves become somewhat distant. The leaves and stem are not so dull coloured as those of most of the species; they are rarely tinted with purple, and usually of a deep rich green hue.

13. Betónica (Betony).

1. *B. officinális* (Wood Betony).—*Leaves* oblong, heart-shaped, crenate; *corolla* twice as long as the calyx, middle lobe of the lower lip somewhat notched; *root* perennial. The Betony is a much prettier and brighter plant than the Dead-nettles, and has one peculiarity in its mode of flowering which distinguishes it from most other labiate plants, as it bears what botanists term an interrupted spike. Its flowers appear in July and August, forming, on a slender stem about a foot high, whorls which for an inch or more are crowded closely together;



then a piece of the green stalk appears, and below that portion there are again three or four whorls of flowers. The corollas are bright reddish purple, and there are always two or three pairs of sessile leaves between the division of the spike; the lower leaves are all stalked. The plant has a slightly aromatic odour.

We have often seen in cottages in Kent, and doubtless there might be seen also in other counties, large bundles of the "medicinal Betony," as Clare calls it, hung up for winter use. An infusion of the plant is taken for colds and coughs, and its slightly tonic properties render it serviceable in low fevers. When used while fresh, the plant has an intoxicating property, which is removed by drying. It is not, perhaps, of any great worth as a medicine, and its rustic uses are doubtless remnants of usages introduced when the true properties of plants were less known. Of all the herbs praised both by British and Continental writers, of the olden time, none, if we except the Vervain, was more highly esteemed than this. Antonius Musa, the physician to the Emperor Augustus, wrote a whole book setting forth the excellencies of the herb, which he said would cure forty-seven different disorders; while Franzius told how even the wild beasts of the forest knew its virtues, and when wounded, availed themselves of its efficacy. Even now the proverbs are in common use in Italy, which record its worth: "May you have more virtues than Betony," is sometimes the pious wish of a parting friend; and, "Sell your coat, and buy Betony," is an old advice to the sufferer; while every old English herbal abounds with its praises; and, in Scott's "Discovery of Witchcraft,"

the reader is told that "the house where *Herba Betonica* is sown is free from all mischief." The dried leaves, when powdered, excite sneezing, though this effect is probably only the result of the small hairs found on the leaves. In Bacon's Natural History we find that it had its uses on this account. He says,—"We see Sage and Betony bruised for sneezing powder, or liquors, which the physitions call errhines." An infusion of the leaves for tea was very generally taken by those who were in delicate health; and Professor Hooker says that the plant is cephalic. The roots are very bitter, and sheep are probably the only animals that will eat the plant, even the goat refusing it. The French call this herb *Betoine;* the Germans, *Betonika;* the Dutch, *Betonie*, and the Italians, *Betonico*. It grows commonly among bushes, and abounds in many of our woodlands. Bacon observes: "The putting forth of certain herbs discovereth of what nature the ground where they put forth is; as wild thyme showeth good feeding ground for cattle; bettony and strawberries showeth grounds fit for wood; camomile showeth mellow grounds fit for wheat; mustard-seed growing after the plough, showeth a good strong ground also for wheat; burnet showeth good meadow, and the like."

14. Stáchys (Woundwort).

1. *S. sylvática* (Hedge Woundwort).—*Leaves* egg-shaped and heart-shaped, acute, serrated, long-stalked; upper floral ones linear and entire; *whorls* of 6—8 flowers distant; *calyx-teeth* very acute; *root* perennial. This branched hairy plant is common in woods and hedges,

its stem is two or three feet in height, and in July and August its whorls of flowers are numerous, though not close together. They are of a reddish purple colour, often marked with white. This, as well as the other species, is very nearly allied to the plants of the last genus, the chief difference between the genera being the shorter tube of the corolla in the Woundworts. It has, especially when bruised, a strong and disagreeable scent. When the green portion of its stem is decayed, so strong a fibre is left, that it has been suggested that the plant might be used for some of the same purposes as hemp or flax. It also furnishes a good yellow dye. Cattle leave it untouched. When in fruit, the calyx-teeth are remarkably rigid. The species were all formerly considered vulnerary plants. The French call the Woundwort, *Stachyde;* the Germans, *Rossnessel;* the Dutch, *Andoorn;* the Italians, *Stachi;* the Spaniards, *Estaquis;* and the Portuguese, *Ortiga morta dos bosques.* It is commonly called Hedge-nettle in country-places.

2. *S. palústris* (Marsh Woundwort).—*Leaves* linear-lanceolate, or egg-shaped and lanceolate, rounded or heart-shaped at the base, sessile or stalked; *whorls* of 6—10 flowers, bracts minute, calyx-teeth very acute; *stem* hollow; *root* perennial. In one variety of this plant the lower leaves are shortly stalked, the upper sessile and somewhat clasping; in another, the leaves have distinct stalks about half the length of the leaf. This Woundwort is very common on river banks and watery places, its widely-creeping roots spreading through the moist soil, and causing much inconvenience to the agriculturist; yet these roots might apparently be turned

to good account. Lightfoot, in his "Flora Scotica," says, that in times of scarcity they have served for food, either when boiled or dried, and have been made into bread. Thick tuberous buds form upon the roots, and contain a tasteless farinaceous substance of a highly nutritive character. They are probably the only tubers of any labiate plant which could be used as esculents. Mr. Houlton, some years since, received from the Society of Arts a silver Ceres medal for introducing this plant to public notice, having previously cultivated it, and made various experiments on the root. The roots are dug up by swine from the low moist lands where they are abundant, and eagerly devoured. Gerarde praises the virtues of this plant in healing "grievous and mortal wounds." He says he derived his knowledge of its powers from a clown, who cured a wound with it in a week, which would have required forty days with balsam itself; hence he called the plant Clown's Woundwort.

3. *S. Germánica* (Downy Woundwort).—*Whorls* many flowered; *leaves* egg-shaped, with a heart-shaped base, crenate or serrate, stalked, densely covered with silky hairs, upper leaves lanceolate, acute, sessile; *stem* erect and woolly; *calyx* with erect teeth, silky; *bracts* as long as the calyx. This plant is found in hedges and by road sides in various parts of England, where the soil is of limestone, and is more common in Oxfordshire and Bedfordshire than elsewhere. The stems are about two feet high; the flowers, which are externally woolly, are of light purple, the palate striped with white. The plant is remarkable for its dense covering of silky hairs or wool. It flowers in September.



1 CAT MINT
Nepeta cataria

GROUND IVY
Nepeta hedera

5 LESSER CALAMINTH
C. nepeta

8 COMMON C
C. officinal

4. *S. arvénsis* (Corn Woundwort).—*Flowers* in a whorl; *stem* spreading; *leaves* egg-shaped, heart-shaped at the base, blunt, crenate; *teeth of the calyx* awned; *corolla* scarcely longer than the calyx; *floral leaves* sessile, acute; *root* annual. This is a small plant, found more frequently than the farmer desires upon cultivated lands. It is easily distinguished, not only from the other species, but from all other labiate plants, by its whorls of from four to six small light purple flowers, with the palate white, and spotted with purple, and by its lesser size and weak branched stems, as well as its small blunt leaves. It occurs on dry sandy and gravelly soils, flowering from July to September.

5. *S. ánnua* (Pale annual Woundwort).—*Whorls* of from 4 to 6 flowers, forming a spike; *leaves* lanceolate, somewhat acute, broadly serrated, three-nerved, the lower ones stalked; *floral leaves* lanceolate, acute; *calyx* hairy, with awl-shaped teeth; *tube of the corolla* longer than the calyx; *root* annual. This plant, which expands its yellowish flowers in August, is very rare, and is a doubtful native. It was found by Mr. Woods in a field between Gadshill and Rochester. Its roundish nuts are glossy, and minutely rough.

15. Népeta (Cat-mint, Ground Ivy).

1. *N. Catária* (Cat-mint).—*Stems* erect; *flowers* in dense, many-flowered whorls, on short stalks, and forming a spike; *leaves* heart-shaped, stalked, with tooth-like serratures, downy; *root* perennial. This plant, though it can scarcely be called common, is not unfrequent in many counties of England; and in Kent, especially on

the chalky soils, it sometimes grows in great plenty in the hedges. It is rare in Scotland, but occurs near Craig-Nethan Castle, and on a few other spots. The stem is two or three feet high, much branched; and, as well as the leaves, soft, and rendered so white by the down, as to have suggested the old English simile, "as white as Nep," which, Mr. Forby says, is still in common use in Norfolk. The whorls of flowers, which are to be seen from July to September, are very numerous, and the corollas are white, dotted with crimson. The powerful odour of the plant resembles that of the Penny-royal. Cats are extravagantly fond of it; but it is remarkable that they will pass by the herb when growing in the hedge, as we have observed them to do, though if brought into the house they quickly discover it, and seem quite intoxicated by it. There is an old proverb respecting this herb—

> "If you set it, the cats will eat it;
> If you sow it, the cats won't know it."

John Ray tells us that the young plants which he removed from the fields into his garden were always destroyed by cats, unless he defended them by thorns placed around them till they had taken root and flowered, but he adds that these animals never touched those plants which had come up from seed. This must be accounted for on the principle that the odour is not perceptible to the cats until the plant is broken or bruised, as it is either by transplantation or by gathering. Mr. Miller mentions that he removed some of his plants of Catmint to another part of his garden within two feet of some which he had previously raised from

seeds, but the former were all selected and destroyed, while the others remained untouched. No animal except the sheep will eat the Catmint on the pasture land. It seems when gathered to have its influence on the cat only, as when laid beside the dog, or hung near the caged bird, it excites no attention.

This plant is in some places called Cat-nep, and our fathers termed it *Herba Catti*, or *Herba Cattaria*. The French call it *Chataire ;* the Germans, *Nept;* the Dutch, *Katteruid ;* the Italians, *Cattaria*. It is sometimes used medicinally, and the leaves of several foreign species are eaten in order to restore tone to the digestive organs. Commerçon states that a species common in Madagascar, which has tubercular roots, is a favourite vegetable; the roots are called *Houmines*. Hoffman relates that the root of our native Catmint, if chewed, will make the most gentle persons fierce and wrathful, and adds that Turneiserius tells of a hangman who was usually gentle and pusillanimous, and who never had courage to perform the duties of his wretched vocation until he had first prepared himself by masticating this root. The writer of these pages, who, with a friend who joined in the experiment, chewed a piece of this bitter and aromatic substance, of the length of a finger, is able, however, to assure her readers, that for at least four-and-twenty hours after taking it, both she and her companion retained a perfect equanimity of temper and feeling.

2. *N. Glechoma* (Ground Ivy).—*Leaves* kidney-shaped, downy, crenate and stalked; *stems* creeping; *flowers* three together, in the axils of the leaves; *root* perennial, and sending out long runners. In early spring, while

flowers are few, we are more disposed to be observant of the forms of buds and leaves than in the later season:

"Though still so early, one may spy,
And mark Spring's footsteps every hour:
The daisy with its golden eye,
And primrose bursting into flower;
And snugly, where the thorny bower
Keeps off the nipping frost and wind,
Excluding all but sun and shower,
The children early violets find."

Thus sang Clare of the country aspects of March; and besides these opening flowers, leaves of various form and hue are daily appearing among the grass. Sometimes even in the first month of the year, the young trailing shoots of the Ground Ivy creep in abundance on the bank among some older ones which have lived through the winter, and we should welcome this early herald of Spring, had we not faith in the proverb—

"If Janiveer calends be summerly gay,
'Twill be winterly weather till the calends of May;"

which, old as it is, is but a version of a Welsh proverb of higher antiquity, and the truth of which experience has confirmed. In March, however, be the spring early or late, we shall be sure to find the Ground Ivy leaves spread open on the sunny bank beside those of the creeping Potentilla, and the green and glossy Arum leaf. A very pleasant fragrance has our Ground Ivy, besides its slightly bitter and aromatic taste. In olden times the herb was in great request for tea, and we were accustomed in childhood to take it, as it is still occasionally drunk in villages, as a Spring drink. It is popularly believed to be tonic and invigorating, nor are

we disposed to regard these diet drinks as altogether useless, while Mr. Abernethy could allude to these vegetable preparations in his work on the "Digestive Organs," and consider them to have great efficacy. John Ray regarded this infusion of the Ground Ivy as good for the head-ache; and Professor Burnett says, that cases are on record in which it would appear that the plant has been really serviceable in hypochondriacal constitutions, and in mania. A pamphlet was published about twenty years since, stating its good effect in cases of mania; and we can add from experience, that an infusion of the leaves sweetened with sugar candy, is an excellent medicine in cases of cough and cold. It is, at any rate, perfectly innoxious, and we can venture to recommend persons subject to pulmonary affections to dry the herb for winter use as well as to take it while fresh. Our fathers considered it useful in a variety of maladies; and the plant was commonly sold in Queen Elizabeth's reign by the "herbe-women of Chepeside," under the names of Gill-by-the-ground, Hay-maid, Cats-foot, Ale-hoof, and Tun-hoof; and it was frequently put into beer instead of hops, or used to clear ale made with that plant. An old writer says, "It is good to tun up with new drink, for it will clarify it in any night that it will be the fitter to be drunk the next morning; or if any drink should be thick with removing, or any other accident, it will do the like in a few hours." It was customary also to drop the juice of Ground Ivy into the ear, to stay the singing tones which sometimes trouble the invalid; and it was also applied to the eyes to cure any temporary inflammation; but the beneficial results

in both these cases were probably rather to be attributed to time, and the gradually restorative powers of nature than to the herb itself. Country farriers, however, still use the juice as an application to the eyes of horses, and all our old writers assure us that "it helpeth beasts as well as men."

In the ancient Anglo-Latin Dictionary referred to on a former page, we find "Hove, or Ground Yvy (herbe), *Edera terrestris.*" Mr. Way, commenting on this, says, that G. de Biblesworth mentions *eyre de bois e eyre terrestre* (heyhowe). He adds, "In John Anderne's 'Practica,' Sloane MS., the use of harhowe, vel halehoue, vel folfoyt, vel horshoue, in the composition of an unguent called *Salus populi,* is set forth. Langham, in the 'Garden of Health,' 1579, details the qualities of Alehoofe, Ground Ivie, Gilrumbith, Ground or Tudnoore; and Cotgrave gives Patte de Chat, Cats-foot, Ale-hoof, &c. Skinner thought that Ale-hoofe was derived from all, and behofe, from its numerous medical properties; but the derivation of the name is probably from *hof ungula,* in allusion to the hoof-shaped leaf." Mr. Way adds, "that it is probable that the Read-hofe of the Anglo-Saxon herbals is the Ground Ivy, to which, however, the name *eoroifig* was assigned."

The flowers of the Ground Ivy expand in April and May, and are exceedingly pretty in their tints of rich purple, varied with the white anthers, which, growing in pairs, form a cross. The stems, creeping several feet among the grass, are often very troublesome on meadow lands, for the plant is rarely eaten by domestic animals, and is even thought to be injurious to them, while it

impoverishes the pasture, and occupies soil which would nourish herbs of more worth to the owner of the meadow. Small galls are often found in this plant, which are made by a species of *cynips*. They are sometimes eaten in France, but Réaumur justly doubted if they would "rank with good fruits."

16. Marrúbium (White Horehound).

1. *M. vulgáre* (Common White Horehound).—*Stem* erect, hoary; *leaves* egg-shaped and narrowed into a leaf-stalk, or roundish and heart-shaped, crenate, hoary and rugged; *whorls* many-flowered; *calyx-teeth* ten, awl-shaped; *upper lip of the corolla* 2-cleft. This is a bushy-looking plant, with stems one or two feet high, thickly covered with white woolly down, which also invests the wrinkled leaves, rendering them of a whitish green hue. The foliage has an aromatic odour, and a bitter flavour, and in August the flowers form close thick whorls around the stems. The blossoms are small and white, their calyx-teeth sharp and hooked. The Horehound, though not a very frequent plant, grows on waste grounds and waysides in many parts of England, but is more rare in Scotland and Ireland. It has for many centuries been used in disease, especially that of the lungs, and though not now employed by physicians, is thought by some good botanists to merit more attention from the faculty than it at present receives. An infusion of the leaves is a common remedy for coughs and colds, and candied horehound and balsam of horehound are still sold by druggists. The former is much in use for children, and the latter compound is said to

be made of an infusion of horehound and liquorice roots, with double the quantity of brandy. Horehound tea, sweetened with honey, is a safe remedy for coughs; and Dr. Thomson says, that it has been of decided service to consumptive persons. The plant loses its aromatic flavour if kept long.

Linnæus observes, that the word Marrubium is derived from an ancient Italian town called Maria-urbs, situated on the borders of the Fucine Lake. The French term the plant *Marrube commun;* the Germans, *Weisse andorn;* the Dutch, *Gemeene malrove;* the Italians, *Marrobio bianco.*

17. Calamíntha (Calamint, Basil Thyme, Wild Basil).

* *Whorls of six simple separate flower-stalks.*

1. *C. Ácinos* (Common Basil). — *Stem* ascending, branched; *leaves* oblong, on short stalks, acute, serrated, or sometimes almost entire, more or less fringed at the base; *root* annual. This is a very pretty little plant, often found on dry chalky hills or gravelly heaths, flowering in August. It is about six or eight inches high, with whorls of small bright purple flowers, more or less marked with white on the lower lip. The tubular calyx is distinctly two-lipped, and the lower lip bulged at the base. The plant has a slight fragrance, resembling that of the thyme. It is often called Basil Thyme. The French call our pretty wild herb *Basilique sauvage;* the Germans, *Kleine bergmünze;* the Dutch, *Vold mynte;* and the Spaniards, *Albahaca menor.*

* * *Flowers in whorls of 2-forked cymes.*

2. *C. Népeta* (Lesser Calamint).—*Leaves* egg-shaped, serrated, pale beneath, shortly stalked; *calyx* somewhat bell-shaped, obscurely 2-lipped; *teeth* nearly all of the same shape, and shortly fringed, the upper ones slightly shorter, the hairs in the throat protruded; *flowers* in forked many-flowered cymes; *root* perennial. This is rather a rare species of Calamint, bearing its pale, pinkish, purple flowers on long stalks in July and August, and growing on dry banks in a chalky soil. It has a strong odour, like that of Penny-royal, and much resembles the next species, though it is smaller, and its leaves more strongly serrated. A good distinction, however, is found in the white hairs in the throat of its calyx. Both this and the next species were recommended by our forefathers to be burned or strewed in chambers, to drive away venomous serpents; and the "wholesome Calamint" is referred to by several of our old poets.

3. *C. officinális* (Common Calamint).—*Leaves* broadly egg-shaped, blunt, stalked, green on both sides, with rounded serratures at the margin; *cymes* stalked, few-flowered; *calyx* distinctly 2-lipped; *teeth* with a long fringe, those of the upper lip triangular, of the lower longer, and awl-shaped; *hairs* in the mouth not prominent; lobes of the lower lip of the *corolla* distant, middle one the longest; *root* perennial. This is not an unfrequent plant in dry places, on hedgebanks, and by waysides. It is erect and bushy, its stems and foliage of a pale greyish green, and downy. Its flowers expand in July and August; they are numerous, of a pale pinkish

colour, and have small pointed bracts in the forks of their stalks. The flavour and scent of the plant are aromatic, and the tea made by an infusion of the leaves is an old and not disagreeable medicine for colds and other maladies, while a compound syrup of Calamint is sold by druggists for the cure of coughs. The plant is sometimes called Calamint Balm, or Mountain Mint, and it is said of it, that if put upon meat which has been kept too long, it will remove all unpleasant odour and flavour. The French call it *Calement;* the Germans, *Kalamint;* the Dutch, *Berg-Kalaminth;* the Italians, *Calaminta.*

4. *C. sylvática* (Wood Calamint).—*Stem* with ascending branches; *leaves* stalked, broadly egg-shaped, sharply serrated, green on both sides; *flowers* in forked cymes; *calyx* distinctly 2-lipped; *teeth* with a long fringe, those of the upper lip spreading or turning backwards, of the lower longer and awl-shaped; *hairs* in the mouth not prominent; lobes of the lower lip of the *corolla* with overlapping segments, all nearly equal in length; *root* perennial. This plant bears large pale-purple flowers from August to October, and its leaves are larger than those of the other species, though all the Calamints are very much alike. The root creeps slightly below the ground. This is a rare species, found among copsewood in the Isle of Wight, and some parts of Kent.

* * * *Flowers in dense axillary whorls; bracts forming a sort of involucre.*

5. *C. vulgáris* (Wild Basil).—*Leaves* egg-shaped, obtuse, rounded below, slightly crenate; *whorls* equal, many-flowered: *bracts* bristly, as long as the calyx;



1. BASTARD BALM.
 Melittis melissophyllum
2. COMMON SELF HEAL.
 Prunella vulgaris
3. COMMON SKULL CAP.
 Scutellaria galericulata
4. LESSER S. C.
 S...

root perennial. This plant was formerly called Unprofitable Basil, probably in contrast to the Sweet Basil of the garden, or Royal Basil, as it was termed. This is the *Ocymum Basílicum*, and was thought to be the *Ocimum* so prized by the ancients, of which, however, we know little more than that Pliny said it throve best when sown with cursing and railing. Our Wild Basil is about a foot or a foot and a half in height. It is a straggling, hairy, not very attractive plant, having in July and August bristly whorls of stalked reddish purple flowers, with numerous long pointed bracts. It occurs abundantly on dry banks, and in hedges, or other bushy places, where we may often meet with a stray plant or two flowering long after the usual season, and cheering the December landscape. It grows wild throughout Europe, from Sweden to Greece and Sicily, in Middle Asia, and also in some parts of North America, where, however, it is, in all probability, an introduced plant. The French call it *Le Clinopode*, and the Germans, *Die Wirbeldoste*. It is the *Borstelkrans* of the Dutch, the *Clinopodio* of the Italians, the *Albahaca silvestre* of the Spaniards, and is termed by the Russians *Bloschinza*.

18. Melíttis (Bastard Balm).

1. *M. Melissophýllum* (Bastard Balm).—*Leaves* oblong, egg-shaped, or somewhat heart-shaped, serrated; upper lip of the *calyx* with 2 or 3 teeth; *root* perennial. This is a very handsome but rare plant, found in woods in the south-west of England, as well as in Hampshire. It is about a foot high, having very large leaves; and

in June and July it bears either showy purple flowers with a white margin, or white, blotched in different ways with purple. It has while fresh a disagreeable odour, but when dried its scent is pleasant, like that of new-made hay. The true balm belongs to another genus, and is the *Melissa officinalis*. The latter plant is sometimes included in the British Flora, as it is naturalized in the south of this kingdom. It has egg-shaped leaves, with rounded serratures, paler on their under surfaces; light pinkish lilac flowers grow in axillary one-sided whorls. It is a native of Southern Europe, and a very old inhabitant of the garden. Chaucer says, when referring to some delicious odour—

> "As men a pot-full of baume held
> Emong a basket-full of roses."

19. Prunélla (Self-heal).

1. *P. vulgáris.*—*Leaves* stalked, oblong-egg-shaped, blunt, upper lip nearly entire, or slightly toothed; upper lip of the *calyx* with short teeth, cut suddenly off, and tipped with a spine; *flowers* in whorls, forming a crowded spike; *root* perennial. The Prunella, or Brunella, as our fathers called it, is very common on banks, and in moist or barren pastures. Its dense short spikes of flowers are usually of a deep purple colour, though we have seen them of a pale lilac, and even white tint. The lower lip of the corolla has a toothed margin, and at the base of the spike are two leaves, and two slender bracts are beneath each whorl, which, as well as the

calyxes, are of deep purple. Like most of our labiate plants, it is in flower during July and August. Its old names of Carpenter's Herb, Sickle-wort, and Hookweed, as well as that by which it is still called, allude to its uses as a vulnerary; and many cases are recorded by old herbalists in which wounds inflicted by sickles, scythes, and other sharp instruments, were healed by its use. As it possesses some astringency, it was probably useful in such cases. The plant grows by waysides in most European countries. Sir Charles Lyell saw it in New England, where doubtless it had been introduced from Europe; and Dr. Joseph Hooker saw it on the mountains of the Himalaya. Linnæus softened down the old name of Brunella to its modern appellation, but the former word is said to have been derived from the German *bräune*, the quinsy, from its supposed uses in that complaint. Its modern name is pretty nearly alike in all the countries of Europe. The French term it *Brunelle;* the Germans, *Prunelle;* the Dutch, *Bruinelle;* the Italians, *Brunella;* and the Spaniards, *Brunela.*

20. Scutellária (Skull-cap).

1. *S. galericulàta* (Common Skull-cap). — *Stem* branched; *leaves* oblong or egg-shaped, and lanceolate, rounded or heart-shaped at the base; *flowers* axillary, opposite, all turning one way; *calyx* downy; *root* perennial. This handsome plant is not unfrequent on the borders of rivers and ponds. Its stem is about a foot or a foot and a half high, and from July to September

its pretty blue flowers are blooming. They are rather large, and the tube of the corolla is much longer than the calyx. As soon as the flowers fall off, the upper lip of the calyx closes on the lower one, and gives to the seed-vessel the appearance of having a lid. One would wonder, at seeing the four little nuts at the bottom of this closed calyx, how they were to emerge from it, for the contrivance for their dispersion is not at first sight apparent. When, however, the little parchment-like box is well dried, it divides into two distinct portions, and the small seeds destined for the growth of future plants fall out, and are soon buried beneath the soil. It is one of the many marks of design which the thoughtful botanist discovers continually in his observation of the flowers of the field, and from which he gathers a remembrance of God's care and goodness. Our Saviour's promise that the pure in heart shall see God, is, in some measure, realized even in this world, for the Christian may trace his hand in the lowliest objects about him. The Skull-cap received its name from the singular impalement of its calyx, which, when inverted, resembles a helmet with its visor raised, while in its ordinary state it is not unlike a cup or dish with a handle; hence its botanic name from *scutella*. It is also called Hooded Willow-herb. The French term the plant *La Toque;* the Germans call it *Schildkraut;* the Dutch, *Helmkruid;* and the Italians *Terzanaria*.

2. *S. mínor* (Lesser Skull-cap). — *Leaves* shortly stalked, blunt, usually quite entire, lowest ones broadly egg-shaped, the intermediate ones egg-shaped, lanceolate, heart-shaped and sometimes halberd-shaped at the

base, upper and floral ones lanceolate and rounded at the base; *flowers* solitary, axillary, and opposite; *corolla* with the throat dilated; *calyx* downy; *root* perennial. This is a small bushy plant from four to six inches high. The lower leaves are often toothed at the base, and the small flowers, which expand in July and August, are of a dull pinkish purple colour, almost white, with the lower lip spotted. The plant is not common except in the West of England. The author has, however, found it in boggy places near Tunbridge Wells, in Kent.

Order LXIII. VERBENACEÆ.—THE VERBENA TRIBE.

Calyx tubular, not falling off; *corolla* irregular, with a long tube; *stamens* 4, 2 longer than the others, rarely 2 only; *ovary* 2 or 4-celled; *style* 1; *stigma* 2-cleft; *seeds* 2 or 4, adhering to one another. This Order is very nearly allied to the *Labiatæ*. It consists of trees, shrubs, and herbs, with opposite leaves, and flowers growing in spikes or heads. The species are rare in Europe, in Northern Asia, and North America; and in colder latitudes the plants are herbaceous, but are shrubs, or even large trees, in tropical regions. Our gardens are enlivened by the bright flowers of many of the Verbenas, and the Lemon-plant has long been a favourite plant because of its strongly fragrant leaves; this shrub is the *Verbéna triphýlla* of older botanists, but is now called *Alóysia citriodóra*. Some of the

plants of the Order are used for remedial purposes, but few of them are remarkable either for their medicinal or economic uses.

1. Verbéna (Vervain).—*Calyx* 5-cleft; *corolla* unequally 5-cleft; *stamens* shorter than the tube of the corolla. Name, the Latin name of the plant.

1. Verbéna (Vervain).

1. *V. officinális* (Common Vervain).—*Stamens* 4; *stem* erect, 4-angled, somewhat rough; *leaves* shining above, rough beneath, lanceolate, cut and serrated, or 3-cleft with cut segments; *spikes* slender, somewhat panicled; *bracts* about half the length of the calyx; *root* perennial. The Vervain is a very common plant in England, though much less so in Scotland, while in Ireland it is rare. It is remarkable for growing in the neighbourhood of towns and villages, and is seldom, perhaps never, found at the distance of more than a mile from houses. It grows on barren grounds, on stony pastures, heaths, and sea-cliffs, and is a slender plant, branched above, with very few leaves, and with flowers which are remarkably small for the size of the herb. They are of a pale lilac colour, and form terminal slender spikes in July and August.

The interest excited in these days by the Verbenas is directed to the beautiful garden species, which are natives of America, and far handsomer than our wild plant in their showy clusters of pink, purple, white, or dazzling scarlet blossoms. But few of our native plants derive a greater interest from old associations than our common Vervain. It rivals the Mistletoe in



the number of ancient usages connected with it, and might, like that plant, serve to awaken in the thoughtful mind a thankful spirit for the clearer light revealed to men of modern days. As Gerarde, however, justly said, "Manie old wives fables are written of vervayne tending to witchcraft and sorcerie, which you may read elsewhere, for I am not willing to trouble your eare with such trifles." The Druids regarded this herb with peculiar reverence, and Pliny relates how, in Gaul, they often used it in casting lots, telling fortunes, and foreshowing future national events, gathering it with peculiar ceremonies. It was to be sought for when the great Dog-star was just rising in the heavens, and when plucked, an offering of honeycomb was to be made to the Earth as a recompense for depriving her of so goodly a herb. The Romans, too, held it in high honour, and the ancients generally seem to have believed the notion recorded by Pliny, that if the hall or dining chamber be sprinkled with the water wherein Vervain lay steeped, all that sate at the table should be "very pleasant and make merry more jocundly." The Romans, who considered it a sacred plant, placed it in the hands of ambassadors who were about to enter on important embassies, and used it in sacrifice to their gods. Pliny tells us that the festival table of Jupiter was swept and cleansed with branches of the Vervain, with great solemnity, and the floors of houses were rubbed with it to drive away evil spirits. In our own country the plant was called Holy herb, and was connected with several superstitious usages. It was doubtless owing to the veneration in which the plant was held in ancient

days, that it was in later ones believed to possess great medicinal virtues. Indeed, in several old directions for its use, we find intimations of a belief in its magical properties. Even of late years the author has seen a piece of Vervain root tied round the neck of a child as a charm to cure the ague, and was told that the plant required to be attached to a white satin ribbon in order to ensure its efficacy. But the herb was also described as a remedy in thirty different maladies; and the author can remember having, during childhood, seen a pamphlet wholly devoted to a description of the uses of the plant in various disorders, and prefaced by an engraving of the Vervain, though the herb does not appear to possess any real medicinal powers beyond a slight degree of astringency. We find Michael Drayton thus alluding to it:—

> "Here holy vervayne, and here dill,
> 'Gainst witchcraft much avayling;
> Here horehound 'gaynst the mad dogs ill,
> By biting, never failing."

We never find this plant omitted whenever the old poets wrote, as they often did in their verses, a list of the various herbs of power. Thus Spenser says:—

> "And then again he turneth to his play
> To spoil the pleasure of that paradise,
> The wholesome sage, and lavender still grey,
> Rank-smelling rue, and cummin good for eyes;
> The roses reigning in the pride of May,
> Sharp isop, good for green wounds' remedies;
> Fair marygolds, and bees alluring thime,
> Swete marjoram, and daisies decking prime.

"Cool violets and orpine growing still,
Embathed balm, and cheerful galingale,
Fresh costmary and breathful camomil,
Dull poppy and drink-quickening setewale,
Vein-healing verven, and head-purging dill,
Sound savory, and bazil, harty-hale,
Fat coleworts and comforting perseline,
Cold lettuce, and refreshing rosmarine."

No wonder that the Vervain had the expressive old name of "Simpler's Joy." It was called also Juno's herb, Mercurie's moist blood, Enchanter's plant, and Pigeon's grasse. The last name was given because, according to Gerarde, "Pigeons are delighted to be amongst it and to eat thereof." It is called in France, *Vervene;* in Germany, *Eisenkraut;* in Holland, *Yzerhard;* in Russia, *Scheelsnik;* in Italy and Spain, *Verbena.*

Order LXIV. LENTIBULARIÆ.—BUTTERWORT TRIBE.

Calyx divided, not falling off; *corolla* irregular, 2-lipped, spurred; *stamens* 2, sometimes 4, 2 long and 2 short; *ovary* 1-celled; *style* 1, very short; *stigma* 2-lipped, the lower lip smallest; *capsule* 1-celled, 2-valved, many-seeded. This Order consists of small herbaceous plants, with leaves all from the root and undivided, or compound root-like leaves, with numerous small bladders or air-vessels. The species are natives of marshes, or rivulets, or fountains, in all parts of the world, especially within the Tropics. They are not known to possess any medicinal properties.

1. Pinguícula (Butterwort).—*Calyx* 2-lipped, upper lip 3-cleft, lower 2-cleft; *corolla* gaping, spurred. Name from the Latin *pinguis*, fat, the leaves being greasy to the touch.

2. Utriculária (Bladderwort).—*Calyx* of 2 equal sepals; *corolla* personate, spurred. Name from the Latin *Utrículus*, a little bladder.

1. Pinguícula (Butterwort).

1. *P. vulgáris* (Common Butterwort).—*Spur* cylindrical and tapering, nearly straight, shorter than the limb of the corolla; segments of the *corolla* very unequal, rounded and diverging from each other, and all entire; *capsule* egg-shaped and pointed; *leaves* all from the root; *root* perennial. This singular and very beautiful plant, though rare in the southern and midland counties of England, is not unfrequent on the bogs and heaths in the north of this kingdom, and is common also in the countries of northern Europe. The leaves, which are of a pale brownish yellow colour, have their edges rolled in, and their surfaces so covered with minute crystalline points, that they look as if sprinkled with hoar-frost. The slender delicate stalks are three or four inches high, several springing from one root, and bearing each a bright blue flower in the month of June. The plant is called by the Laplanders *Tät-gras*, and the leaves are used by them in preparing a favourite beverage of milk, which they call *Taeotmioelk*. The fresh leaves of the Butterwort are laid upon a filter, and warm rein-deer's milk is poured upon them, which, after passing through the filter, is allowed to remain for one or two days, till

the milk becomes sour, when it is found not to have become separated from the whey, and yet to have acquired by this method a much greater tenacity and consistence. Nor is it necessary to gather fresh leaves in order to prepare another portion of milk; for Professor Lindley observes that a small quantity of this solid milk will act upon that which is fresh, in the manner of yeast. It is from these uses that the plant acquired the name of Butterwort, and the greasy surface of the leaves originated the French name of *Grassette*, and also that of *Pinguícula*. If these leaves are only laid in cow's milk, they readily coagulate it; and the Swedes and Norwegians use them much in their dairies. When crushed, they serve as a village remedy for bruises, and their unctuous nature renders their juices good for the skin, irritated by exposure to wind. In Wales a pleasant syrup is prepared with this foliage.

The Butterwort is sometimes called Yorkshire Sanicle, and is said to have been formerly used to dye the hair yellow. It is known in Germany as *Feltkraut;* in Holland as the *Smeerblow;* the Spaniard calls it *Grassila,* and the Italian *Pinguicula.* It is very difficult of cultivation, but is occasionally planted in gardens, though the handsomer *P. grandiflóra* is more easily reared, and better repays the cultivator.

2. *P. grandiflóra* (Large-flowered Butterwort).—*Spur* awl-shaped, cylindrical; *segments of corolla* very unequal; *root* perennial. This is the most beautiful of all the native species. It grows on bogs in the counties of Cork and Kerry, in Ireland, bearing, in May and June, its flowers of deep but bright purple colour.

It is a rare plant, and may be distinguished from the Common Butterwort by the larger *corolla*, the middle segment and spur of which are notched. The leaves both of this and the last species die in winter, and buds are formed, which in the following spring expand into perfect plants.

3. *P. alpina* (Alpine Butterwort).— *Spur* conical, shorter than the limb of the *corolla*, and curved towards the lower lip; *capsule* acute; *root* perennial. This species is much smaller than the Common Butterwort, which it resembles in habit, and in the texture of its foliage. Its flower-stalks are smooth, and its flowers, which expand in June, are yellowish, having clear yellow hairs beneath, and a very short spur. It is very rare, being found only in bogs in Scotland and Ireland. The recorded localities of this flower are the Isle of Skye, and the bogs of Aughterflow and Shannon, in Ross-shire.

4. *P. Lusitánica* (Pale Butterwort).—*Spur* cylindrical, blunt, curved downwards; segments of the *corolla* nearly equal; *leaves* and *flower-stalks* covered with short hairs; *root* perennial. This plant is about the same size as the last, and though not nearly so rare, yet is very local, never occurring in the east of this kingdom, and rarely in the midland counties, but being chiefly confined to the marshy plains and moors at the west. It has been found on marshy ground near Basing, three miles from Basingstoke; and it is abundant in the Hebrides and in the bogs of Ireland. The leaves are greenish-white, and veined; and the pale pink flowers expand from July to September.

2. Utricul'aria (Bladderwort).

1. *U. vulgáris* (Greater Bladderwort).—*Spur* about half as long as the corolla, conical, straight and blunt; upper lip of the *corolla* as long as the inflated palate; *leaves* pinnate, and much divided; *anthers* cohering; *root* perennial. This is a not unfrequent plant in ditches and deep pools. It has an erect stalk, from four to six inches in height, and in June clusters of the large bright yellow flowers, six or eight in number, grow down the upper part of the stalk, and are raised several inches above the surface of the pool.

This plant is one of great physiological interest, on account of the numerous air-bladders which invest it. The shoots or runners are submerged in the water, and are clothed at regular intervals with divided capillary leaves, armed with distant minute spines. Attached to the leaves and shoots are many little crested membranous bladders, of a green purple, or pink colour. These vesicles are at first filled with water, but during the time of flowering the water escapes, and they become filled with air, so as to buoy the plant above the surface, that it may have the light and air necessary for its development. When the flowering is over, however, and these little buoyant air-vessels are no longer needed, the bladders become filled with water, and bear the plant down again, that it may ripen its seeds, and sow them in the mud at the base of the water. The bladders are of a most curious structure. Each has an aperture closing with an elastic valve, which Mr. Wilson has observed to be of a much thinner texture than the

vesicle to which it is attached. It opens inwards, and this botanist remarks, that aquatic insects often enter the orifice, and are of course confined there. All the species of Bladderwort have these little bladders on some part of their structure. The French call the plant *L'Utriculaire;* the Germans *Wassenslauch;* and the Dutch *Neelekruide.* In Denmark it is termed *Vandröllike,* and in Norway *Vassröllike.* It is sometimes called in country places Hooded Milfoil.

2. *U. intermédia* (Intermediate Bladderwort).—*Spur* conical; *upper lip* twice as long as the inflated palate; *leaves* 3-parted; *segments* linear and forked; *root* perennial. This species is somewhat rare. It is altogether a smaller plant than the last, and its pale yellow flowers have a much shorter spur and a longer upper lip; they are also fewer in number, and the flowering stalk is not more than two or three inches high. The stems are more leafy, but the bladders are placed on branched stalks, and not on the foliage. Their season of bloom is July, but the plant seldom flowers, being mostly increased by buds. Mr. Borrer has observed, however, that at this period the vesicles are all immersed in the mud, and the leafy shoots float under water. The plant is found in ditches and pits, and the authors of "The British Flora" name as its localities, Scotland Heath, Corfe Castle, Dorset; Rescobie Lake, Forfar; the neighbourhood of Elgin; and those of Bantry and Dublin.

3. *U. mínor* (Lesser Bladderwort).—*Spur* very short, blunt; *upper lip* as long as the palate; *lower lip* egg-shaped, flat; *leaves* much cut into forked segments,

bladders upon the leaves; *root* perennial. This is a plant growing in ditches and deep pools, and not uncommon in many parts of Scotland. It is a smaller but rather stronger plant than either of the preceding; bearing from June to September small pale yellow flowers, with scarcely any spur.

The Bladderworts can hardly be cultivated, but they grow wild in abundance in the pools and rivers of many hot countries, being there among the loveliest of aquatic plants, with their pink, purple, yellow, or white flowers. The blossoms are so fragile that they scarcely survive the gathering; nor do they retain any of their beauty when dried, changing in the herbarium to a dark, almost black, hue.

Order LXV. PRIMULACEÆ.—PRIMROSE TRIBE

Calyx 5-cleft, rarely 4-cleft, and in *Trientális* 7-cleft, regular, not falling off; *corolla* of as many lobes as the calyx (wanting in *Glaúx*); *stamens* equalling in number the lobes of the corolla, and opposite to them; *ovary* 1-celled; *style* 1; *stigma* capitate; *capsule* 1-celled, opening with valves; *seeds* numerous, attached to a central column. The Order consists of herbaceous plants, chiefly inhabitants of the colder latitudes. It contributes to our fields and meadows some of the loveliest of wild flowers, as it includes the Primrose, Cowslip, Pimpernel, and Water-violet; while to it the garden owes some of its earliest blossoms, as the Auricula, Polyanthus, and Cyclamen. The economical uses, however,

of the species are of small importance, and somewhat of acridity exists in the roots of the Cyclamen, and the flowers of the Pimpernel.

1. Hottónia (Water-Violet).—*Calyx* 5-cleft, almost to the base; *corolla* salver-shaped, with a short tube; *stamens* 5; *capsule* opening with 5 teeth. Named after Professor Hotton of Leyden.

2. Prímula (Primrose).—*Calyx* tubular, 5-cleft; *corolla* salver or funnel-shaped, with a long cylindrical tube; *stamens* 5, enclosed within the tube of the corolla; *capsule* 5-valved, with ten teeth. Name from the Latin *primus*, first, from its early bloom.

3. Cyclamen (Sow-bread).—*Calyx* bell-shaped, cleft half way down into 5 segments; *corolla* wheel-shaped, the lobes reflexed; *stamens* 5; *capsule* opening with 5 teeth. Name from the Greek *cyclos*, a circle, from the spiral form of the fruit-stalks.

4. Glaux (Sea Milkwort).—*Calyx* bell-shaped, coloured, of 1 piece, 5-lobed; *corolla* none; *stamens* 5; *capsule* 5-valved, with 5—10 seeds. Name in Greek denoting the sea-green colour of the leaves.

5. Trientalis (Chickweed Winter-green).—*Calyx* 7-cleft to the base; *corolla* wheel-shaped; *stamens* 7; *capsule* opening with valves. Name of doubtful origin.

6. Lysimachia (Loosestrife).—*Calyx* 5-cleft to the base; *corolla* wheel-shaped; *stamens* 5, not hairy; *capsule* opening by valves. Name said to be from King Lysimachus.

7. Anagallis (Pimpernel).—*Calyx* 5-cleft to the base; *corolla* wheel-shaped; *stamens* 5, hairy; *capsule*



splitting all round. Name from *ana*, again, and *agallo*, to adorn, from its adorning the wayside every spring.

8. Centúnculus (Chaff-weed).—*Calyx* 5-cleft to the base; *corolla* with an inflated tube; *stamens* 4; *capsule* splitting all round. Name said to have been given anciently to the nearly allied genus Pimpernel, and supposed to be derived from *cento*, patchwork, from the way in which it covers the ground.

9. Sámolus (Brookweed).—*Calyx* 5-cleft, adhering to the lower half of the capsule, not falling off; *corolla* salver-shaped, with 5 scales at the mouth of the tube; *stamens* 5; *capsule* opening with 5 reflexed teeth. Supposed to be named from the island of Samos, where Valerandus in the 16th century gathered the species since called *Sámolus Valerándi*.

1. Hottónia (Water-Violet).

1. *H. palústre* (Common Water-Violet, or Featherfoil).—*Flowers* whorled, on a long cylindrical stalk; *corolla* longer than the calyx; *leaves* finely divided; *root* perennial. This is a very lovely, though not a very common inhabitant of our English pools, and it is unknown in those of Scotland. Its pretty feathery leaves, which are all submerged, grow in tufts, only the upper part of the flower-stalk rising above the water. This stands up about four or five inches from its surface, and is surrounded in May and June by large handsome flowers of a pink and yellow, or pale purple, or sometimes white hue. The creeping root is composed of white, thread-like fibres, which penetrate deeply into the soft soil.

It is to be regretted that this handsome aquatic is not more frequently planted in ponds, as it is very showy, and ripe seeds deposited one summer in the soil will produce flowering plants in the following spring.

2. Prímula (Primrose, Oxlip, Cowslip).

1. *P. vulgáris* (Common Primrose).—*Leaves* oblong, egg-shaped, wrinkled, crenate; *stalks* single-flowered; *calyx* tubular, teeth lanceolate, tapering, very acute; limb of the *corolla* flat; *root* perennial. One variety of the Common Primrose has a stalked umbel of flowers, and this is the Polyanthus of our gardens; while some writers describe the growth of the Common Primrose as a sessile umbel, because if each stalk bearing the solitary flower is traced to the base, all the stalks are seen to grow in an umbelliferous form. To none familiar with wood or garden need we descant on the beauty of the Primrose tufts, which are in spring among their loveliest ornaments. In April and May we may wander among the woods or by the hedgebanks secure of finding them, contrasting with the violet and other favourite flowers. But he who loves the woods at an earlier season—who is not scared by deep-sounding blasts, who can find a music in the voices of the winds, and a grace in the motion of the leafless boughs—he may perchance discover, two or three months earlier, a Primrose bud peeping up from amid the withered leaves which had sheltered it securely from nipping frosts. Such a rambler would probably bethink him of Milton's description, "The rathe Primrose," for though the old

word "rathe" is hardly so significant in our days as in those of the poet, yet he is reminded that it is the origin of our common word "rather," or sooner, and feels how justly it alludes to the Primrose. Linnæus, in the imaginative mood which so often characterised his nomenclature, termed these flowers the *Preciæ*. Our old writers called the species *Prymrole*, which, like our common name, seems to be a corruption of *Prima rosa*; and the French *Primevère*, the Italian *Primavera*, the Spanish *Primula*, and the German *Frühlings blume*, all tell how men have welcomed the early flower, welcomed it all the more because they could find it by vale or hill, by wood or river.

"The humble Primrose' bonnie face,
I meet it everywhere;
Where other flowers disdain to bloom,
It comes and nestles there;
Like God's own light—on every place,
In glory it doth fall,
And wheresoe'er its dwelling-place,
It straightway hallows all.

"Where'er the green-wing'd linnet sings,
The primrose bloometh lone;
And love it wins, deep love from all,
Who gaze its sweetness on:
On field-paths narrow, and in woods,
We meet thee far and near;
Till thou becomest prized and loved,
As things familiar are."

Bacon, with that strange mixture of knowledge and ignorance which is to be found in his "Sylva," attempts to account for the early appearance of the spring flowers. "There be," he says, "some flowers, blossoms, grains,

and fruits which come early, and others which come more late in the year. The flowers that come early with us are prime-roses, violets, anemonies, water-daffadillies, *crocus vernus*, and some early tulippas; and they are all cold plants, which therefore (as it should seem) have a quicker perception of the heat of the sun increasing, than the hot herbs have; as a cold hand will sooner find a little warmth than a hot. And those that come next after are wallflowers, cowslips, hyacinths, rosemary flowers, &c.; and after them pinks, roses, and flower de luces; and the latest are gilly-flowers, hollyocks, larksfoot, &c. The earliest blossoms are the blossoms of peaches, almonds, cornelians, and mezereons, and they are of such trees as have much moisture, either watery or oily; and therefore *crocus vernus* also being an herb that hath an oily juice, putteth forth early, for those also find the sun sooner than the drier trees." Notwithstanding this and similar opinions and disquisitions of the old writers, however, the cause is yet unknown why the Primrose is found amid the flowers of spring, and the rose is the glory of Mid-summer, though we can all agree in the opinion of this writer as to the cause of the early bloom of the fruit-trees. "It," he says, "seemeth to be a work of Providence, that they blossom so soon, for otherwise they could not have the sun long enough to ripen."

Lovely as our native primroses are, they are not equal in beauty to those of the tribe which deck the mountains. This is pre-eminently an Alpine genus of plants; and far away on the heights of Switzerland and Spain, on Alps or Pyrenees, the primroses peep up to remind

the traveller of the English garden. Amid the cold blasts of some of these dreary regions, where ice and snow thicken during the winter over impassable chasms and inaccessible mountain peaks, the little Primrose is lying secure beneath the fleecy mantle, and waiting for some gleam of sunshine to melt a small patch of snow, when it will smile forth upon the loneliness. Not merely the sulphur-coloured, but still more often Primroses of a white, yellow, violet, lilac, and sky-blue colour, expand there; and the purple Auricula, with its white centre and powdery cup, sheds its peculiar perfume. Primroses are found continually near to the eternal snows and glaciers, and the long-agitated question as to whether any flower actually bloomed beneath the snow, seems now set at rest. Mr. Brown, when remarking on those at Thun, in Switzerland, says, "As the snow next the ground most commonly melts the first, at least when the bed is of considerable thickness, it is not rare to see some of the hardiest and earliest blowing plants in full bloom under a projecting canopy of frozen snow, which constantly drenches them with an icy shower." This writer tells of the beautiful effect produced on the Faulhorn in the month of July, when there was a bed of snow of about a quarter of an acre, quite hard, but not more than half a foot thick. A few days before he visited it a horse had crossed this bed, and the snow had disappeared, leaving a succession of circles about six inches in diameter, which were literally filled with flowers of all hues, but scarcely one reaching to the level of the surrounding snow. There is much reason for believing that these had flowered beneath the

snow; and Mr. Dennis, of Chelsea, ascertained that the species of *Primula*, as well as some other flowers, expanded and produced their proper tints, or nearly so, in an obscured condition of light, almost equal to that of a covering of snow.

It is not on the lofty mountains of Europe only that the Primrose tribe grow in great profusion and beauty. Dr. Joseph Hooker, when in the Himalayan mountains, was often delighted with these flowers, which he saw growing along with the Saxifrages, tufted Wormwood, Whitlow-grass, and others, close to the snow, while grasses, and sedges, and green moss were all around. In more fertile spots the Rhododendrons took the most prominent place on the scene, clothing the mountain-slopes with a deep-green mantle, and glowing with bells of different colours, every bush being laden with flowers. Primroses came next, both in beauty and abundance, accompanied by Cowslips with stalks of the wondrous height of three feet; and purple Polyanthuses and pink dwarf Primroses nestled among the rocks; while one exquisite species, blue as sapphires, sparkled like these gems among the turf; then came Gentians, and a large species of Rhubarb, which waved its graceful pyramid of white flowers above them all.

But we are wandering long from the flower of our woodlands, which, with wrinkled leaves, opens with the budding trees. The leaf is very similar to that of the Cowslip, but the observer will perceive the difference between the two in the gradual narrowing of the Primrose-leaf towards the base, while that of the Cowslip suddenly narrows just below the middle, forming a foot-

stalk. The leaves of both flowers are agreeable to silkworms, and the roots possess an emetic property, and were of old much used medicinally. The blossoms are still in country places made into a pretty pale yellow ointment, which we have ourselves often applied to the wounds made by briars and thorns, but which probably owes its chief efficacy to some other of the various ingredients of which it is composed. The Auricula of our gardens (*P. Aurícula*), which grows in abundance on the Lower Alps of Switzerland, was in much repute among our old writers on plants. It was called Bear's ears, and among other wonderful cures effected by it, it received much praise for its use in curing diseases caused by having "inadvertently eaten the Sea Hare." This poor little harmless animal, so frequent on our shores, seems to have been held in the greatest dread, and even its touch deemed deleterious. How it could be "eaten inadvertently" is a marvel, as it is of a considerable size; and we have many times taken it from the waves, and handled it with impunity; but a large variety of plants are strongly recommended to be used against its various injuries.

The Rev. C. A. Johns remarks in his "Flowers of the Field," respecting the Primrose, "The colour of the flowers is such as to have a name of its own; artists maintain that primrose-colour is a delicate green." Our old writers too, like Spenser, call it the "greene primrose," and Parkinson treats of green cowslips. He says, "And first of primroses and cowslips, whereof there are many prettye varieties, some better knowne in the west part of this kingdom, others in the north, than in any

other, until of late being observed by some curious lovers of varieties, they have been planted diversely, and so made more common; for although we have had formerly in these parts about London greene primroses usually, yet we never saw or heard of greene cowslips, both single and double, but of late daies; and so likewise for primroses too, both single and double, from one roote, and divers upon one stalke of divers fashions, I am sure is not usual: all which deserve better to be planted under some hedge or fence, and in the shade than sunshine." The "greene cowslips" of this old writer were probably oxlips.

Almost all our old poets refer to the Primrose. Spenser has some elegiac verses, in which he says—

> "She is the rose, the glory of the day,
> And mine the primrose in the lowly shade."

And Shakspeare likened Fidele's face to the "pale primrose." The Primrose is so common a wild flower, that all men know it. Well does it tell of England's soil to her distant sons; and Dr. Stephen Ward mentioned recently to the Royal Institution, as an instance of the successful conveyance of plants in glass cases, that a primrose so transported had arrived in full bloom, and that when it reached Australia the sensation excited by it as a reminiscence of fatherland was so great, that it was necessary to protect it by a guard. Mrs. Abdy has written some interesting verses on this touching incident:—

> "The strong and toiling man, intent on grasping worldly store,
> Who from the hidden caves of earth wrests forth the precious ore,
> Recals with joy his childish glee when primrose tufts he found,
> And deem'd no richer treasures could be proffer'd by the ground.

"The gentle girl, contending with a rough and chequer'd lot,
Thinks of the glens and coppices around her father's cot,
From whence the early primroses she oft rejoiced to bring,
Greeting their blooming promise as a herald of the spring.

"All love upon the English flower to rest their wearied eyes,
Reading therein a history of dear and sever'd ties,
Communion with their absent friends in fancy they attain,
And go refresh'd and solaced on their busy course again.

"A 'primrose on the river's brim' hath won the poet's lays,
But surely thou, sweet primrose, hast a higher claim to praise;
Thou in the vaunted realms of gold hast cheer'd an exile band,
And soothed their toil with pleasant thoughts of Home and
Native Land!"

Our sulphur-coloured primrose is found in most European countries, growing in woods, copses, and partially shaded banks, thriving most luxuriantly on clay soils, but never occurring, like the cowslip, in the midst of the meadow. Varieties, slighted tinted with red, often occur in our woods, but

"The polyanthus of unnumber'd dyes"

has been changed by culture to most of the various tints.

2. *P. elátior* (Common Oxlip, or Jacquin's Oxlip).—*Leaves* egg-shaped, contracted below, wrinkled, slightly toothed; *stalks* umbellate, many-flowered; *calyx* tubular, teeth lanceolate, and acute; limb of *corolla* concave, segments oblong, heart-shaped; *tube* not contracted at the mouth, and without scales or folds; *root* perennial. The Oxlip is not a generally distributed flower, though varieties between the primrose and cowslip are often very similar, the chief difference in structure being that these varieties have more or less a slightly inflated

calyx, and a somewhat contracted mouth, and folds and plaits in the throat. As this distinct species is rare, except in the woods and meadows in the eastern counties of England, the common variety of the primrose, the primrose oxlip, is the flower mentioned by our poets, and this is not unfrequent. Many of us may say with Shakspeare—

> "I know a bank whereon the wild thyme blows,
> Where oxlip and the nodding cowslip blows."

Michael Drayton, describing the wedding-garlands of his day, enumerates it among many well-known flowers :—

> "To sort which flowers some sit; some making garlands were,
> The primrose placing first, because that in the spring
> It is the first appears then only flourishing;
> The azured harebell next with them they neatly mix'd,
> To allay whose luscious smell they woodbind placed betwixt;
> Amongst those things of scent, then prick they in the lilly,
> And next to that again her sister daffadilly;
> To sort these flowers of show with the others that were sweet,
> The cowslip then they couch, and the oxlip for her meet;
> The columbine amongst, they sparingly do set,
> The yellow king-cup wrought in many a curious fret,
> And now and then among of eglantine a spray,
> By which again a course of lady-smocks they lay;
> The crow-flower, and thereby the clover-flower, they stick
> The daisy over all those sundry sweets so thick
> As Nature doth herself; to imitate her right,
> Who seems in that her part so greatly to delight,
> That every plain therewith she powdreth to behold;
> The crimson darnel-flower, the blue-bottle and gold,
> Which though esteem'd but weeds, yet for their dainty hues,
> And for their scent not ill, they for this purpose choose."

Many more flowers were added to the list; so many, that one is ready to pity the bride or her maidens, who

must have been overloaded with these sweets. But spare your pity, gentle reader, for never did all these flowers bloom together at one season; a circumstance to which the older poets rarely paid the slightest attention in their narratives or allusions.

The Oxlip is of the same colour as the Primrose, its calyx, however, being tubular, and not bell-shaped. Great doubt exists as to whether it is really a distinct species, or whether it will not ultimately prove to be one of the many intermediate forms between the primrose and cowslip. Bees are great means of producing these varieties, for by their feathered hairs they pilfer from the flowers the fertilising dust of the anthers—the pollen. They may, in some cases, be seen so covered over with this yellow, white, or orange powder, that their own brown hue is quite disguised beneath it.

3. *P. véris* (Common Cowslip).—*Leaves* egg-shaped, contracted below the middle, crenate, toothed, and wrinkled; *flowers* in umbels, drooping; *calyx* tubular, and bell-shaped, teeth short; *limb* of the *corolla* concave; *tube* with a circle of scale-like folds at the slightly contracted mouth; *root* perennial. Rare as the Cowslip is in the meads of Scotland, it is plentiful enough in the clayey pastures of England, affording to many a merry group of children a sweet wild nosegay, and an innocent source of pastime. Sometimes their hats are adorned with the flowers, sometimes these are by laborious ingenuity made up into cowslip-balls, or large numbers of the blossoms are gathered by poor women and children, and carried into towns for sale:—

"In the city's busy streets, by rich men's doors,
On whose white steps the flower-girl sets her stores,
In wicker basket group'd to lure the sight,
They stop and tempt full many a wistful wight.
Gay sight, the passing carman grins thereat,
And sticks a purchased posey in his hat,
And cracks his whip, and treads the rugged streets
With waggish air, and jokes with all he meets.
The sickly child from nursery window spies
The tempting show, and for a nosegay cries,
Which placed in China-mug by linnet's cage,
Will for a time his listless mind engage.
The dame precise moves at the flower-girl's cry,
Laying her patchwork and her netting by,
Then sends across the way her tiny maid,
And presently on mantel-piece display'd,
Between fair ornaments of China ware,
Small busts and lacker'd parrots station'd there."

In some places the Cowslip is commonly called Paigle; we have heard it so called in Cambridgeshire, but never in Kent, but it is a very old English name of the flower, as is that of Petty Mullein. English herbalists commonly term it Palsy-wort: and *Herb à paralysie* is a very ancient French name for the Cowslip; while the medical writers of old times, who made much use of these flowers, called them *Arthriticæ* and *Herbæ Paralysis*. In France the flower is now called *Primerole*, or it shares with others the familiar name of *Fleur de Coucou*. Our word Cowslip is of very old use, and is the Saxon *Cuslippe*, having probably a reference to the soft texture of the corolla, or to the odour, which might seem similar to that of the breath of cows. The blossom is usually of pale yellow, with a crimson centre, and appears in May.

A decoction of the flowers was said by old medical writers not only to cure tremblings, but was believed to be generally efficacious in strengthening the brain and nerves, and the leaves were considered a useful application to wounds. The flowers were, after being well dried in the sun, made into a conserve with sugar. An old writer, who says that this preserve was in great fashion in his time, in Sussex, gives lengthened directions for preparing it. The flowers are still in use in villages for making a cosmetic; and Parkinson says of their juice, that it is "commended to cleanse spots or marks on the face, whereof some gentlewomen have found good experience." Though the leaves have little flavour, they were described as serving well for a salad. The plant would probably afford all the benefits which Chaucer describes the maidens as bestowing:—

> "And after that of herbes that there grew
> They made, for blisters of the sun breuning,
> Ointments very good, wholsom, and trewe,
> Where that they yede the sick fast anointing,
> And after that they yede about gadering
> Pleasant salides, which they made them ete,
> For to refresh their gret unkindly heat."

The leaves undoubtedly possess sedative properties, though not to the same degree as those of the lettuce; and the root when first drawn from the ground has an odour of anise. Country people sometimes mix the blossoms with tea, considering them both wholesome and refreshing. Cowslip wine is not uncommon in Warwickshire, though it is not so frequently made in this country as it was by housewives a century since. It is very pleasant in flavour, and an excellent sedative.

The Cowslip may be propagated by dividing the roots in autumn, and by culture very handsome clumps of this flower may be produced, of much larger size and richer hue than when growing wild. Old writers on gardens call some of the varieties thus procured Curled Cowslips and Galligaskins. They had, too, their Feathered Cowslips, which were probably some kind of fringed polyanthus; their Red Bird's-eye Cowslips, Green Cowslips, Rose Cowslips, and Jackanapes on Horseback; while one unfortunate flower was called the Franticke or Foolish Cowslip. Cattle are not fond of Cowslips, nor indeed of any of the primrose tribe, but swine eat them.

4. *P. farinosa* (Bird's-eye Primrose).—*Leaves* inversely egg-shaped and lanceolate, mealy, crenulate; *calyx* oblong-egg-shaped; *teeth* linear; limb of *corolla* flat; *segments* inversely heart-shaped, rounded below, distant, as long as the tube; *root* perennial. This is a most lovely little flower, something like a miniature Auricula. It blooms in July, and is of pale lilac, purple, or sometimes almost white, with a yellow centre. It is not unfrequent on the mountainous pastures of the North of England, though on some less elevated localities, long known to the botanist in Yorkshire, and other counties, it has been eradicated to make room for the railway. It is rarely found in Scotland. Dr. Hooker mentions in his "Flora Antarctica," when referring to the Falkland Isles, that the heaths of grassy land were spotted with a white primrose, nearly identical with this flower, and hardly to be distinguished from it.

5. *P. Scótica* (Scottish Primrose).—*Leaves* inversely



1 SOW BREAD
Cyclamen hederæfolium

2 SEA MILKWORT
Glaux maritima

3 CHICKWEED WINTER GREEN
Trientalis europæa

egg-shaped and lanceolate, toothed, mealy; *calyx* bladder-like; limb of the *corolla* flat, its mouth glandular, the segments inversely heart-shaped, half the length of the tube; *root* perennial. This is the loveliest of our native primroses. It is about half the size of the last species, stouter, shorter, and with smaller flowers, which are of a deep bluish purple, with yellow centre. It is frequent on the north coast of Sunderland, and on the sandy shores of the Orkney Islands, flowering in July.

3. Cyclamen (Sow-bread).

1. *C. hederæfólium* (Sow-bread). — *Leaves* heart-shaped, angular, finely toothed, their ribs and footstalks somewhat rough; tubes of the *corolla* globose; *mouth* with five teeth; *root* perennial. This plant, though probably not indigenous to our soil, occurs in several places in profusion, as near Sandhurst and Gouldhurst, in Kent. In July, its white or flesh-coloured flowers, with their lobes turned backward, are nodding on long stalks, and even as late as September they are yet open on warm wooded spots. The plant has a dark brown, tuberous, highly acrid root-stock; its leaves are, as their name would imply, shaped something like those of the ivy, and the flowers have a delicate perfume. As the fruit ripens, the flower-stalks twist spirally into numerous coils, enclosing the germen in the centre, and this they gradually bury in the earth. The Cyclamen is a pretty flower, and would doubtless be often cultivated, were it not that more beautiful species are brought from other countries, some of which, like the richly fragrant Austrian Cyclamen, have long been reared in our

gardens. The Persian Cyclamen is also a very elegant species, flowering as early as February; but as both these plants require winter shelter, the hardy Round-leaved Sow-bread, with delicate purple flowers, is more common. They are all, however, when sown, some years before flowering.

The Cyclamen genus is one of southern and eastern lands. All the species have large acrid tubers; and the acrid principle is said by Professor Burnett to be peculiar to these plants; it has been called *Arthanitine.* The fondness of swine for the roots originated the English as well as some of the continental names of the plant. Swine-bread is an old name for it; and the French call it *Pain de Porceau,* or, as it is provincially termed, *Pain de pur.* Our old medical writers called the plants *Tuber terræ* and *Terræ rapum.* In Italy it is called Ground-bread (*Pane terreno*), as well as *Pane porcino;* and in that country, as in Sicily, where it is abundant, it is the chief food of large herds of swine, and has been much used medicinally. The Germans call it *Erdscheibe;* the Dutch *Varkensbrood;* and the Swedes, *Svinbröd.*

4. Glaúx (Sea Milkwort).

1. *G. marítima* (Sea Milkwort, or Black Saltwort).—*Stem* generally procumbent; *leaves* opposite, egg-shaped, smooth; *flowers* axillary, sessile, entire; *root* perennial. This is a little succulent plant, from three to six inches high, growing in masses among the grass of the salt-marsh, or on the mud of the sea-shore, often in great abundance. If kept moist, it will also grow very well

inland in garden pots, and looks very pretty on rock-work. It bears, from June to August, little pink flowers, dotted with black, and its thick smooth leaves are of a greyish-green hue, and covered with powdery bloom. The blossoms are destitute of a green cup. This plant is sometimes called Newton's Knot-grass. The French term it *Glauce ;* the Germans, *Milchkraut ;* the Dutch, *Melkruid ;* and the Danes, *Melkürt.*

5. Trientális (Chickweed Winter-green).

1. *C. Europæa* (European Chickweed, Winter-green). —*Leaves* oblong, egg-shaped, blunt ; *root* perennial. This pretty little plant was a great favourite with Linnæus. It is found occasionally in the north of England, and is abundant in the Scottish Highlands. The stem is without branches, from four to six inches high, having a few large leaves near its top, and two or three small distant leaves below. From among the terminal whorled larger leaves arise from one to four slender stalks, each bearing a small white flower with a yellow ring. The number of stamens varies from seven to nine, and the seeds have a beautiful covering, like a delicate lace-work. Its creeping thread-like stem is somewhat acrid in taste. The plant is rare, and confined to the north of this kingdom. It occurs on Hambleton Hills, Swill Hill, near Halifax, and on the moors about Teesdale. It is not found in Ireland. The French call this plant *Trientale ;* the Germans, *Sternblümchen ;* and the Dutch, *Vintergrön.* It flowers in June.

6. Lysimáchia (Loosestrife).

1. *L. vulgáris* (Great Yellow Loosestrife).—*Stem* erect, panicles compound, terminal, and axillary; *leaves* egg-shaped, or egg-shaped and lanceolate, nearly sessile, opposite, or three or four in a whorl; segments of *corolla* entire; *stamens* five, combined for half their length; *root* perennial. This very handsome flower of our stream sides, though frequent in some places, is rather local in its haunts. Its branched upright stem is two or three feet in height, and its large yellow panicle has leaves growing among the blossoms. The foliage is smooth or somewhat downy beneath, and of rather dull green, and the flowers appear in July and August. This species was much used in former days medicinally. Lysimachus, the King of Sicily, according to Pliny, first discovered its medicinal virtues. It had besides, in the opinion of the old writers, the power of quieting the restive oxen if laid beneath their yokes. It is sometimes called Yellow Willow-herb. The French term it *Lisimaque;* the Germans, *Gelbe weiderich;* the Dutch, *Weiderick;* the Italians and Spaniards, *Lisimachia.*

The Ciliated Loosestrife (*Lysimáchia ciliáta*) has been found by Mr. Backhouse near Scrbergham, Cumberland; but though naturalized on this spot, it is a North American species. It has an erect stem; its yellow flowers are stalked, and either in whorls or somewhat racemed; its leaves are egg-shaped, lanceolate, and heart-shaped, with fringed footstalks; the lobes of the corolla are crenate, and it has ten filaments, all distinct, five of which are sterile.



1 GREAT YELLOW LOOSESTRIFE
Lysimachia vulgaris

2 TUFTED L.
L thyrsiflora

3 WOOD L.

4 CREEPING L.
L nemularia

5 SCARLET PIMPERNEL.
Anagallis arvensis

6 BOG P

Some specimens of the Westphalian Loosestrife (*L. Westphálica*, Weike) have also been sent lately to the Editor of the "Gardener's Chronicle." They were found in the neighbourhood of Dulverton, growing by a brook in the meadow. The Editor, who records this as a new British plant, remarks, "Although this plant is usually referred to *L. vulgáris* as a variety, it really belongs to *L. punctáta*, if we can trust the evidence of specimens in our herbarium, and must bear the latter name. It differs from *L. vulgáris* in having solitary axillary pale yellow flowers, and a corolla fringed with glandular hairs."

2. *L. thyrsiflóra* (Tufted Loosestrife).—*Stem* erect, unbranched; *leaves* opposite, lanceolate, sessile; *racemes* dense, many-flowered, stalked, axillary; segments of the *corolla* very narrow, and separated by minute teeth; sterile *filaments* none; *root* perennial. This plant is rare in England, occurring on marshes in some parts of Yorkshire and Hertfordshire, but it is more frequent in Scotland. It is one or two feet high, and the small yellow blossoms grow in a thick cluster at the top of the stem, and are, as well as the calyx, spotted with orange. They expand in July.

3. *L. némorum* (Yellow Pimpernel, or Wood Loosestrife).—*Leaves* opposite, egg-shaped, acute, shortly stalked; *stem* prostrate; *stalks* one-flowered, axillary, longer than the leaves; *filaments* smooth, distinct; *root* perennial. This species well deserves its name of Yellow Pimpernel, for its leaf both in form and hue, and its blossom in shape, at once suggest the resemblance of the Scarlet Pimpernel. It is somewhat straggling in habit, its weak stem and branches often trailing over the

ground. The flowers are of bright yellow, and may be found in the woods in June and July

4. *L. Nummulária* (Creeping Loosestrife, Money-wort, or Herb Twopence).—*Leaves* opposite, somewhat heart-shaped or egg-shaped, blunt, shortly stalked ; *stem* prostrate, creeping ; *stalks* one-flowered, axillary, solitary, shorter than the leaves ; *filaments* glandular, connected at the base ; *root* perennial. This species is so frequently cultivated on artificial rock-work, or on the borders of fountains in gardens, that it is well known. Nor is it uncommon as a wild plant, growing often about ruins or in damp woods, hanging down the sides of mossy slopes, its branches trailing a foot or more in length, well clad with roundish shining deep green leaves, and bearing in June and July its numerous handsome flowers of bright yellow. It multiplies rapidly by the root and stems, but though a very hardy plant it rarely produces seed. It was formerly considered an excellent wound-herb, decoctions of the plant made with wine or water being drunk by the sufferer, while lotions prepared from its juices were used externally. It probably possesses some slightly astringent properties. Like most of the primrose tribe it is unpleasing to cattle.

7. Anagállis (Pimpernel).

1. *A. arvénsis* (Scarlet Pimpernel).—*Stem* ascending or somewhat prostrate ; *leaves* opposite, or in threes, egg-shaped, sessile, dotted beneath ; *flower-stalks* longer than the leaves; *calyx* nearly as long as the wheel-shaped corolla ; *root* annual. In one form of this flower

the margin of the corolla has rounded notches, and is fringed with minute glandular hairs. The colour of this variety is usually scarlet. In another form, in which the margins of the corolla are toothed and scarcely at all glandulose, the colour is blue. This is the *A. cærulea* of some writers. Another variety is white, or white with a pink eye, and is the *A. carnea* of some botanists. The names of Shepherd's Barometer and Poor Man's Weather Glass, by which the Scarlet Pimpernel has long been known, are very appropriate. The flower never opens on a rainy day, and long before the shower is coming it is conscious of its approach, and closes up its petals. Several of our wild flowers close, like the Convolvulus, before rain, but none are such good barometers as this. It was early noticed by naturalists. Derham, in his "Physico-Theology," says, "The flowers of Pimpernel, the opening and shutting of which are the countryman's weather-wiser; whereby, Gerarde saith, he foretelleth what weather shall follow the next day; for, saith he, if the flowers be close shut up it betokeneth rain and foul weather; contrariwise, if they be spread abroad, fair weather." Lord Bacon, too, who calls it Winco-pipe, noticed this peculiarity. Leyden thus alludes to the flower:—

> "Such is the science to the peasant dear,
> Which guides his labour through the varying year,
> While he, ambitious 'mid his brother swains
> To shine the pride and wonder of the plains,
> Can in the Pimpernel's red tinted flowers,
> As close their petals, read the measured hours."

Not only does the Pimpernel shut up its blossoms during rainy and cloudy weather, but it is one of the

best of the Floræ Horologicæ, opening its petals in our latitude at about ten minutes past seven in the morning, and closing them a few minutes after two in the afternoon. It is interesting to remark the regularity with which some of the plants of our woods and fields fold or unfold their blossoms. Who ever saw a Goat's-beard open on a summer afternoon? Long before that part of the day it had gone to its nightly sleep. Nor in other climates are these peculiarities less frequent; for Dr. Seeman, the naturalist, who accompanied Kellett's Arctic Expedition, mentions as a curious fact of the vegetable world, during the long day of an Arctic summer, the regular closing of the flowers. "Although," he says, "the sun never sets while it lasts, the plants make no mistake about the time, when if it be not night it ought to be; but regularly as the evening hours approach, and when a midnight sun is several degrees above the horizon, they droop their leaves, and sleep even as they do at sunset in more favoured climes." This naturalist adds, that if ever man should reach the Pole, and be undecided which way to turn when his compass has become sluggish and his time-piece out of order, the plants which he may happen to meet with will show him the way; their sleeping leaves tell him that midnight is at hand, and that at that time the sun is standing in the north.

Constant as are the flowers under their accustomed circumstances, yet there are certainly cases in which, if unusual darkness come upon them, they do, as Dr. Seeman expresses it, make "a mistake." Some years since, when an eclipse of the sun brought darkness at

midday, the author of these pages took a lanthorn and went out to examine the flowers and leaves. Both were folded up just as at midnight. Various species of garden Convolvulus, the Pheasant's-eye, and several other flowers were quite closed, and daisies and marigolds had "gone to bed with the sun." The leaves of Lupins, and Laburnums, and Robinias, all hung drooping as at night-time, and as the darkness gradually disappeared so the flowers and leaves opened, and stood erect, as if to meet the dawn.

The Pimpernel is bright scarlet, with a purple eye, and it is, with the exception of the Poppies, our only scarlet wild flower. The leaves are of a somewhat sea-green hue, quite smooth, often marked on the under side with small black specks, and the stems are square, and very brittle. These are about three or four inches long, and often lie nearly close to the soil. The flowers may be seen from May to November. The white variety, with a purple eye, is a very pretty little flower. Mr. Dillwyn Llewellyn found it at Pennllogan, in South Wales; and we have several times found it near Chatham, in Kent, both as a garden weed and in the cornfield. The blue Pimpernel is of a dark rich blue colour. It occurs commonly in Germany, Switzerland, and Sweden; and in this kingdom is frequent in Devonshire and Gloucestershire, and found also in some parts of Surrey, Cambridgeshire, and other counties. The varieties are by some good botanists thought to be probably distinct species, but Professor Henslow's experiments on the flower would lead to a different conclusion. This botanist, who received specimens and seeds of

Anagallis cærulea from Yorkshire, raised from the seeds about a dozen plants, nine of which had blue and three red flowers. He received also a pale pinkish variety from Higham, in Kent, and seeds from Yorkshire of the white variety with a purple eye. From these seeds he raised seven plants, one of which produced red, and the other six white blossoms, tinged more or less with light pink, and having a bright pink eye. Mr. Borrer suspects that the Pimpernel in each variety has sometimes blue and sometimes red flowers.

Our Common Pimpernel grows everywhere, on sunny bank, on gravelly or sandy heath, in the furrow of the field, or on the bed of the garden. Dioscorides and Pliny had much to say of its excellence as a medicine in liver-complaint; and from its use in removing the dispiriting feelings so consequent on that malady, they tell how it gained its scientific name from *anagalao*, to laugh; but the name is more likely to be, as Sir W. J. Hooker considers it, from the Greek words signifying "again" and "to adorn," because it comes every summer to grace our pathways. Our fathers' idea of its efficacy was greatly overrated. "It is," says an old writer, "a gallant sober herb, of a cleansing attractive power, whereby it draweth forth thorns and splinters, or other such like things, gotten into the flesh." This power of drawing forth, not only thorns but even "arrows which were broken in the flesh," was universally ascribed to the plant, and led some botanists to think that the genus was named from *anago*, to extract; which, however, is scarcely probable. The bruised leaves formed the application in these cases, and were believed also to

cure persons bitten by a mad dog. The distilled juice was said by an old herbalist to be much esteemed "by French dames to cleanse the skin from any roughness, deformity, or discolourings thereof." Gerarde affirmed that "it helpeth them that are dim-sighted." The Greeks and Romans used the juices of the plant mixed with honey, for complaints in the eyes; and so many were the cures effected by this little plant, that an old proverb, once in familiar use among our fathers, is thought by John Ray probably to refer to the imputed virtues of the Pimpernel:—

"The dasnel dawcock sits among the doctors."

Several old medical writers of good repute had great confidence in cures which they had wrought in diseases of the brain by means of the juices of this flower; and we might cite half-a-dozen well-known authors who, like Ettmüller, highly extol its efficacy in hypochondriasis and similar maladies. Professor Lindley says, "It has had some reputation in cases of madness, and appears to possess energetic powers, for Orfila destroyed a dog by making him swallow three drachms of extract of the plant." A similar result was obtained by Grenier, and in our own times the plant has been prescribed in cases of epilepsy and dropsy.

Both the blue and scarlet Pimpernel were known to ancient writers, who were pleased to term the blue-flowered variety the female, and the red the male Imperial Pimpernel. Pliny had a notion that sheep avoided the blue and ate the scarlet Pimpernel, which he, with some reason, regards as a very strange circum-

stance, because, as he says, the plants are alike in all save the colour of the flowers. Pliny adds, that if by mistake the sheep cropped the blue Pimpernel, they sought forthwith for a plant which he names, but which modern botanists cannot identify.

The French call our pretty little flower *Mouron;* the Germans, *Gauchheil;* the Dutch, *Guichelheil;* the Italians, *Anagallide;* and the Russians give to it a name which is easier to write than to read, as they term it *Kurjàtschja nogâ trawà.*

2. *A. tenélla* (Bog Pimpernel).—*Stem* creeping; *leaves* egg-shaped, or roundish, stalked; *flower-stalks* longer than the leaves; *petals* entire, much longer than the calyx; *root* perennial. All botanists enjoy wandering over a bog, for there may be seen some of the choicest gems of our native flora. The Bog Pimpernel is a not unfrequent plant there, its delicate rose-coloured flower peeping up in June and July, from among the turf, and making with the moss a beautiful carpet. The blossoms are not much like those of the Pimpernel of the cornfield, but look at first like tiny fragile rock roses, seated on a stalk no thicker than a sewing-thread, about four inches long, with leaves so small that a whole spray of them might lie beneath a sixpenny piece. The segments of the blossom are seldom so expanded as to become quite flat, but are more often erect, and appearing as if not fully blown. The plant sometimes grows on the borders of rivulets. It is rare in Scotland. Dr. Hooker saw a species of Pimpernel very much resembling it, growing on a bank near the Alpine region of the Himalaya.



1 SMALL [illegible]HAF[illegible]EED
Centunculus [illegible]minimus

2 WATER PIMPERNEL
Anagallis [illegible]aquatica

3 THRIFT
Armeria [illegible]vulgaris

4 PLANTAIN [illegible]LEAVED
[illegible]

8. Centúnculus (Chaffweed).

1. *C. mínimus* (Small Chaffweed, or Bastard Pimpernel).—*Leaves* egg-shaped, alternate, acute and smooth; *flowers* nearly sessile, axillary, and solitary; *root* annual. This is among the smallest, perhaps quite the smallest of all our wild flowers. It is not very common, and is doubtless sometimes overlooked on the moist gravelly spots on which it grows. It is found in various countries, as in some parts of Norfolk, about London, on Brabourne and Willesbro' Leas, in Kent, and on some wet sandy places in Hampshire and other counties; as well as in the South of Ireland, and the Lowlands of Scotland. It has something the appearance of a stunted Pimpernel. Its minute flowers are rose-coloured, but never very bright. They expand in June and July. The stem is sometimes branched, but more often it is simple, and bears about six or eight alternate leaves, among which are placed about the same number of little blossoms. The French call the Chaffweed *Centenille bassette*, the Germans *Centunkel*, and the Dutch *Zeer Klein guichelmuur*. The species seems to grow throughout Europe, and may or may not be the *Centunculus* of the Romans, which was, however, apparently a plant of cultivated grounds.

9. Sámolus (Brookweed).

1. *S. Valerándi* (Brookweed, or Water Pimpernel).—*Leaves* blunt, racemes many-flowered; *flower-stalks* with a small bract; *root* perennial. This Brookweed grows

in damp and watery places, especially where the soil is of gravel, but it is not frequent. The rounded stem is about eight or ten inches high, and, like the leaves, smooth and of pale green hue. The foliage is thick and succulent, and the small white flowers, which may be seen from July to September, are much crowded while young, but gradually become more distant from each other. The plant is in some country places considered a certain cure for any malady affecting swine. It is believed to have been used in the mystic ceremonies of the Druids.

It is not often that a species occurs in all latitudes, though this is less unfrequent with aquatic than land plants. Our little Brookweed, however, like our common meadow grass, is a cosmopolite, and the Shepherd's Purse seems almost so, or at any rate follows man wherever he sets his foot. Dr. Joseph Hooker, who observed the two latter herbs at East Nepaúl, looked at them there with some emotion. Plants like these, he says, give rise to trains of reflection in the mind of the traveller who is a naturalist, and "the farther he may be from home and friends, the more wild and desolate the country he is exploring, the greater the difficulties and dangers under which he encounters these subjects of his earliest studies in science, so much keener is the delight with which he recognises them, and the more lasting the impression which they leave. At this moment these common weeds more vividly recal to me that wild scene, than does all my journal, and reminds me how I went on my way taxing my memory for all I ever knew of the geographical distribution of the

Shepherd's Purse, and musing on the probability of the plant having found its way thither over all Central Asia, and the ages that may have been occupied in its march."

The French call our Brookweed *Samole;* the Germans, *Samoskraut;* the Dutch, *Strandpungen*, and the Danes, *Strandsamel.* The word *Sámolus* is by some writers derived from two Celtic words, *san*, salutary, and *mos*, pig; and Pliny refers to its ancient use as a medicine for swine. The plant received its specific name in memory of Dourez Valerand, a botanist of the sixteenth century, mentioned by Bauhin. And some authors consider that the genus was named from Samos, the birthplace of Valerand.

Order LXVI. PLUMBAGINEÆ.—THE THRIFT TRIBE.

Calyx tubular, plaited, chaffy, not falling off, often coloured; *corolla* 5-cleft nearly to the base; *stamens* 5, opposite the petals; *ovary* of 5 carpels, 1-celled; *styles* 5; *fruit* one-seeded. This Order consists of herbaceous or somewhat shrubby plants, with undivided fleshy leaves, and flowers often forming heads or spikes. They inhabit the sea-shores of most temperate regions, some being found also on mountains. They vary in properties, some being very acrid, others useful as tonic medicines.

1. Armèria (Thrift).—*Calyx* funnel-shaped, plaited, dry, membranaceous; *petals* united at the base, bearing

the stamens; *styles* distinct, hairy; *stigmas* glandular; *flowers* in heads. Name from *Flos Armeria*, which was an old name for one of the Sweetwilliam Pinks.

2. Statice (Thrift).—*Calyx* funnel-shaped, plaited, dry, membranaceous; *petals* united at the base, bearing the stamens; *styles* distinct, smooth; *stigmas* glandular; *flowers* in one-sided panicles. Name from the Greek *statizo*, to stop, from some supposed medicinal virtues.

1. Armeria (Thrift Sea-pink).

1. *A. maritima* (Common Thrift, Sea Pink, or Sea Gilliflower).—*Leaves* linear, 1-nerved; *awns* of the calyx short; *root* perennial. Several varieties of this Thrift are known to botanists. In one form the leaves are flattish above, and the calyx-tube uniformly hairy; in another having the leaves thus flattened, the calyx-tube is hairy on the ribs only, and smooth between them; in a third form the leaves are grooved, and dotted above, and the calyx-tube uniformly hairy, while in another variety the leaves are grooved above, and the calyx-tube is hairy on the ribs only; the last form is very rare. Most dwellers on our sea-shores know well the pretty Thrift, for it is often used as a common garden border in towns and villages near the sea. It is also often brought inland for the same purpose, for which, as old Gerarde observes, "it fitly serveth." Though not in such general use as it was in the days of this old botanist, yet its pink tufts look well still amid their long grassy leaves by many a flower-plot, and are rendered larger by culture, and reddened into the hue of the rose itself.

It is, however, truly, when wild, a sea-side plant, often occupying, as Hugh Miller says, with "its green prominent cushions," the flat salt marsh, and standing up sometimes like "little islets amid the flowing sea." Thousands of the Thrift plants form these tufts over the marshes, and are thus watered at spring tides, while far beyond them we may see the fleshy jointed stems of the glass-wort growing out of the mud. This accurate observer remarked of the latter plant, that the stems gradually become diminutive and branchless as they approach the sea, till at depths where they must be frequently swum over by the young cod-fish and the flounder, they appear as mere flashy spikes and then cease. On many marshes, however, the Thrift is never wholly covered, and far as the eye can see the blossoms are enlivening the dreary waste in such numbers as to remind us of Tennyson's words :—

> "Wonder at the bounteous hours,
> The slow result of winter showers,
> You scarce can see the grass for flowers."

Sometimes they are of a deep rose-colour, and occasionally they are white, but more frequently these blossoms are of pale pink, which becoming paler as they grow older, give an aspect of whiteness to the grassy soil. The stalk of the Thrift is about three or four inches high: pale brown scales mingle among the blossoms, and brown chaffy bracts, one, two or three in number, grow beneath the head and form a covering to the upper part of the flower-stalk. The Thrift grows well on sea rocks, and doubtless acquired its familiar name from thriving with so little nutriment as their crevices

afford. The Germans give the plant the appropriate name of *Das Seegras;* and in Queen Elizabeth's time it had the English name of Lady's Cushion, and the French one of *Gazon d'Espagne.*

But our Thrift is not a "Sea grass" only. It occurs on mountains far away from the sound of the wave, and gives to the children of the mountaineer a beautiful summer nosegay; and might have been among the blossoms of which Rogers has said,—

> "In happy ignorance, the children played,
> Alike unconscious, through their cloudless day,
> Of what they had, and had not; everywhere
> Gathering rock flowers, or with their utmost might
> Loosening the fragment from the precipice,
> And, as it tumbled, listening for the plunge."

A bitter and astringent principle exists in the Thrift, but it is remarkable that the plant secretes different substances on the different soils. When growing near the sea it is found to yield iodine and salts of soda, while the mountain plant loses the iodine and yields potash instead of soda. When wild the Thrift produces seed, but when removed to the garden it can be propagated only by dividing the roots. It flowers from April to September, and its leaves are all from the root.

2. *A. plantagínea* (Plantain-leaved Thrift).—*Leaves* linear-lanceolate, 3—5 nerved; *awns* of the calyx long; *root* perennial. This Thrift, which is found in great abundance in Jersey, on the sandy districts of Quenvais, is readily distinguished from the common species. It has much broader leaves, and its calyx has long bristly



1 SPREADING SPIKED SEA LAVENDER
Statice limonium.

2 REMOTE FLOWERED S. L.
S. bahusiensis.

3 UPRIGHT SPIKED S. L.
S. binervosa.

4. MATTED THRIFT
S. caspia.

teeth. The flowers, which expand in June and July, are of pale purple colour.

2. Státice (Sea Lavender).

1. *S. Limónium* (Spreading spiked Sea Lavender).—*Leaves* oblong and lanceolate, stalked, tipped with a spine, one ribbed; *stalk* with a much branched spreading corymb at the top; *branches* curved outward; *spikes* short, densely flowered; *calyx* segments entire, acute, with intermediate teeth; *outer bract* pointed, small; *root* perennial. The

"Pale Sea Lavender, that lacks perfume,"

is, however, a very handsome flower. Though rare in Scotland, it is quite common in England on muddy shores and salt marshes, from July to September. One may see it at a great distance, for its large level-topped cluster of small blossoms is of bright though light lavender colour, and stands on a leafless stalk one or two feet in height. Its cluster branches off into several spreading somewhat flattened tufts, which stand on angular stalks. The leaves are of bright green, sometimes a foot long, and very strongly nerved, and the sharp point turns backward.

2. *S. Bahusiénsis* (Remote-flowered Sea Lavender).—*Leaves* oblong-lanceolate, stalked, tipped with a spine, one ribbed, faintly nerved; *stalk* much branched from near the base, panicled; *branches* ascending or curving inwards; *spikes* elongated, with rather distant flowers; *calyx* segments acute, with intermediate teeth; *root*

perennial. This species is very nearly allied to the last, but its stalk always branches from near the base, and its clusters are not level-topped. It flowers in June and July, and has pale lilac flowers. It seems more generally distributed than the last species on the muddy shores of this kingdom.

3. *S. binervósa* (Upright spiked Sea Lavender).—*Leaves* inversely egg-shaped above, narrowing below into a broadly winged stalk, more or less spine-tipped, and three-nerved at the base; *stalk* branched from below the panicle; *elongated branches* in two rows, spikes erect; *calyx* with flat blunt segments, without intermediate teeth; *root* perennial. This plant was formerly regarded as a variety of *S. Limónium*, from which, however, it is very distinct. It is also by various writers termed *S. spathuláta*, or *S. cordáta*. It grows on rocks and cliffs on several parts of the Kentish coast, as well as on those of Devon and Cornwall, and on some of the Irish and Scottish shores, but it is not frequent. When walking under the cliffs at Dover, or among the paths which intersect those stupendous heights, we may, in July and August, find it in abundance, sometimes at our feet, or within reach of the hand, or sometimes forming tufts over the summits, beside the nests of the sea-birds. It is easily known from the species already described, by its spathulate leaves, and by its small size. The leaves are of a pale sea-green hue, rather thick, and waved at the edges, with a strong midrib, and two, or sometimes four, nearly parallel ribs reaching to within a third of the top of the leaf, which is tipped with a small spine. They form a spreading tuft around the base of

the panicled stalk, which is rarely more than half a foot high, branched below the middle into several forked erect tufts of pretty bluish lilac flowers, with deep pink bracts.

Mr. G. E. Smith, in his "Flora of South Kent," says of this plant, "This species, so long overlooked as distinct from *S. Limónium*, notwithstanding the decision of Gerarde and Ray, the careful record of localities and cultivation for above a hundred years in the Chelsea, and long since in the Oxford garden, appears under as great a variety of names as a Spanish grandee." He adds that the most obvious character is presented by the leaves, and by the structure of the calyx. This is for half its length membranous, and is closed after flowering, in which respect it differs from *S. Limónium;* which, having the hard ribs continuous nearly to the summit of the calyx, exhibits that part expanded after flowering.

This little plant, like the common Sea Lavender, is destitute of perfume, but retains the hue and form of its flowers long after gathering, and much of the tint remains even through the winter. Visitors from inland places are generally attracted by these sea-side flowers, and such large numbers of the plant are ruthlessly torn up from Dover Cliffs every summer, that one wonders that it is not wholly extirpated. Mingled, however, with the Carline thistles, and some of the grasses from the cliff or meadow, with a branch or two of the prickly Sea Holly, it serves for a winter ornament, and may awaken a pleasant memory of the by-gone summer walk, and the look or tone of friendship. If the cap-

sule of scarlet berries which the wild blue Iris bears on its stalk in autumn be added to the group, a permanent bouquet may be formed, scarcely less beautiful than that of summer flowers.

Some botanists follow the division made by Boissier of the *S. binervósa* into two species, *S. Dodártii*, and *S. occidentális;* the former having no sterile branches, and the latter having the few lowest branches sterile. The authors of "The British Flora," however, remark that they find every intermediate form among their British specimens.

4. *S. Cáspia* (Matted Thrift). — *Leaves* somewhat wedge-shaped, narrowed into a footstalk; *stalks* branched from near the base with numerous slender zigzag branches, repeatedly and acutely forked, the uppermost alone bearing terminal spikes of 2—3 flowered, two-ranked spikelets; *calyx* segments egg-shaped, tapering suddenly and toothed; *root* perennial. This is a very rare species of Sea Lavender, found on the muddy salt marshes of Norfolk and Suffolk. It is the smallest of the British species, and remarkable for its much divided sterile branches, which fork at an acute angle, and are very slender. The flowers are small and crowded, of a lilac colour, expanding in July and August, in one-sided terminal spikes. It is found principally at Cley and Wisbeach.



1. GREATER PLANTAIN
Plantago major.

2. HOARY P
P media

3. RIBWORT P
P lanceolata.

Order LXVII. PLANTAGINEÆ.—THE PLANTAIN TRIBE.

Calyx 4-parted; *corolla* 4-parted, chaffy, not falling off; *stamens* 4, alternate with the segments of the corolla, and having very long thread-like filaments, and lightly attached anthers; *ovary* 1- or 2-celled; *style* 1; *stigma* hairy; *capsule* splitting transversely; *seeds* 2—4, or many in each cell. This Order consists of herbaceous plants with slightly bitter and astringent leaves, and mucilaginous seeds. Several of the tribe are found in all parts of the world.

1. Plantágo (Plantain).—*Calyx* 4-cleft, the segments bent back; *corolla* tubular, with 4 spreading lobes; *stamens* very long; *capsule* splitting all round, 2—4-celled. Name of doubtful origin.

2. Littorélla (Shore-weed).—*Stamens* and *pistils* in different flowers; *barren flower* stalked; *stamens* very long; *fertile flower* sessile; *bracts* 3; *corolla* tubular, contracted at both ends; *style* very long; *capsule* 1-seeded. Named from *littus* the shore, its place of growth.

1. Plantágo (Plantain).

1. *P. májor* (Greater Plantain).—*Leaves* broadly egg-shaped, mostly on long channelled stalks; *flowers* in a long cylindrical tapering spike; *sepals* with a prominent nerve at the back; *capsule* 2-celled; *seeds* oblong; *root* perennial. A variety occurs in which the

flower stem is shorter than the leaves, and bears a long spike of from three to six flowers. Few of the dustiest and driest of our road-sides are without some token of vegetation. Something besides a few blades of grass usually forms a margin, which pleases the eye of man, and gives food to some beast or bird or insect. We can scarcely wander away from the closely paved city into some suburb in which the more thinly scattered dwellings gradually prepare us for the country road, without finding a tuft of Plantain. Its broad, strongly veined leaves lie spread around its root, and from June to September its tall spikes of greenish flowers, or the brown ripened seeds which succeed them, invite the possessor of the captive bird to carry the plant away for the meal of the songster. To thousands of bright and joyous creatures, linnets, finches, and other wild birds, the young buds and seeds of the Plantain afford a supply of food; and doubtless the poet was right who told that to some of the insect race the broad leaf served as a canopy:

> "While the moth for night's reprief
> Waited safe and snug withal,
> 'Neath the plantain's bowery leaf,
> Where not e'en a drop could fall."

The flowers are on a stalk about a foot high, densely crowding it to about the middle, and at the base of each little flower is a small bract. The length of the leaf-stalk differs, and the leaves have usually seven nerves, or in the small variety of the plant only three.

This Plantain is so especially a way-side herb that its old name of Way-bred seems very appropriate, and the

Germans call it *Wegerich*, and the Dutch, *Weegbree*. Our English name is, however, of Saxon origin, and was originally Wabron, or Wabret, and the plant is still in Teviotdale called Wabret-leaf. Leyden thus refers to it :—

"As every prospect opens to my view,
I seem to live departed years anew;
When in these wilds a jocund sportive child
Each flower self-sown my heedless hours beguiled;
The wabret-leaf that by the pathway grew,
The wild-briar rose, of pale and blushful hue,
The thistle's rolling wheel of silken down,
The blue-bell or the daisy's pearly crown,
The gaudy butterfly in wanton round,
That, like a living pea-flower, skimm'd the ground."

Some amusing old verses in Cutwood's "Caltha Poetarium," called the "Bee's Pilgrimage," make mention of the plant by this old name :—

"He made himselfe a paire of holy beads,
The fifty aves were of gooseberries,
The Paternosters and the Holy Creeds
Were made of red or goodly fair ripe cherries;
Blessing his mary-gold with Ave-Maries,
And on a staff made of a fennell-stalke,
His bead-roll hangs, while he along did walke.

"And with the flower monkshood he makes a cowl,
And of a gray dock got himselfe a gown;
And looking like a fox or holy fool,
He barbs his little beard, and shaves his crown,
And in his pilgrimage goes up and down:
And with a wabret-leaf he made a wallet,
With scrip to beg his crumbs and pick his sallet."

The Plantain often grows on pasture lands, and some animals eat its herbage, though it yields but a small

amount or nutriment. It is a common plant all over Europe, and so generally follows in the train of the cultivator, that wherever an English colony is founded it is sure to spring up among the weeds, and it may consequently be seen in almost every climate, receiving in some of our settlements the name of the Englishman's Foot.

Some degree of astringency exists in the leaves and roots of this Plantain, but not enough to warrant the praises bestowed on the herb by the old writers. Pliny handed down the repute of its sanative powers, and though this is lessened, yet it is not altogether lost in our day. In the words of his translator, Pliny records that "Themison, a famous physician, sets forthe a whole booke of the hearbe waibred or plantaine, wherein he highly praiseth it; and challengeth to himselfe the honour of first finding it out, notwithstanding it be a triviall and common hearbe trodden under everie man's foote." The juice of the plant was considered good for various ills, and Dioscorides imagined that the water derived from three roots cured the tertian, and from four, the quartan ague; while grave and learned writers of later days set it down in their books as a well ascertained fact, that the toad when about to encounter the spider ate of the plantain-leaf, and that if wounded it sought again the same remedy. George Herbert mentions the Plantain as an herb to be used medicinally by the "parson," who in those days was to regard as his province the bodily as well as the spiritual maladies of his flock. It was, however, more especially as a vulnerary that the plant was held in universal esteem, and

from Chaucer downwards we find it alluded to as an application to wounds. It was not Romeo alone who would, when referring to the "broken shin," say,

> "Your plantain-leaf is excellent for that;"

it was the common opinion. Shenstone also mentions it;

> "And pungent radish, biting infant's tongue,
> And plantain ribb'd, that heals the reaper's wound."

And it is likely that the wound would heal, not simply by means of the astringent juices, but also by being bound together by the broad cool leaf. The leaves are yet used in villages for slight wounds, and it is remarkable that they are applied thus on the Himalaya mountains. Dr. Joseph Hooker, referring to the number of sick persons who came to him to be cured of rheumatism, goitres, and other complaints, as well as from cuts and poisonings, mentions that one old woman whom he attended dressed her wounds with plantain-leaves, which, he adds, is a very old Scotch remedy, the ribs being drawn out, and the leaf applied fresh. "It is," says the Doctor, "rather a strong application." A negro once received a reward from an assembly of South Carolina for a remedy for the bite of the rattle-snake, the chief ingredient of which is said by Mr. Woodville to be the Plantain. The leaves bruised and placed over the part stung by a bee soon relieve the pain. The French call this herb *Plantaine;* the Italians *Piantaggine;* the Spaniards, *Llanten;* and the Russians, *Uschik.*

2. *P. média* (Hoary Plantain).—*Leaves* egg-shaped, downy, sessile, or tapering into broad and short footstalks; *flower-stalk* rounded; *spike* cylindrical; *sepals*

not keeled ; *capsule* 2-celled ; *cells* 1-seeded ; *root* perennial. This species is common on the meadows and pastures of chalky districts of England. Its leaves spread all around the root, lying close to the earth ; and the Rev. C. A. Johns remarks that they destroy all the vegetation beneath, and leave the impress of the ribs on the ground. It bears a pretty and fragrant spike of flowers from June to October, having long dark purple filaments, and light purple anthers, and the spike looks quite silvery from the white, shining, somewhat chaffy corollas. The leaves make a good astringent lotion. It is not indigenous to Scotland, but the authors of the "British Flora" remark that it is occasionally seen there in places where it has been introduced with the grass seeds.

3. *P. lanceoláta* (Ribwort Plantain).—*Leaves* lanceolate, tapering into a broad stalk ; *stalk* angular ; *spike* egg-shaped or cylindrical ; *bracts* egg-shaped, acute, two of the sepals keeled ; *tube* of the corolla smooth ; *cells* 1-seeded ; *roots* perennial. The Ribwort is often very abundant on upland soils, and is generally a common plant of the meadow. The flowers are in dark brown, hard spikes, and are called by country children Cocks and Hens. They appear in June and July, and in a very luxuriant variety they are very long and truly cylindrical, while in some specimens they become quite globular in form. Sometimes the bracts are so large as to be converted into leaves ; and sometimes a second spike on a short stalk grows from among the bracts in a horizontal direction. The leaves are long and strongly ribbed. An old Welsh name for the plant is "Suet producing," and it has also been called the "sheep's favourite

morsel." It bore besides, in early days, the name of Hound's-tongue, and modern farmers term it Rib-grass, including it among those plants which they distinguish as artificial grasses. It has long been used occasionally for herbage, and Arthur Young, as well as other writers on pasture plants, regarded it with approval. Much uncertainty has, however, prevailed respecting its usefulness, until the recent experiments of Professor Buckman on this and other plants have tested it. The Professor says that it is a very good food for sheep, and that when mixed with other plants on the pasture it is truly valuable; but that it should not form too large a proportion of the herbage. He remarks that in one field of seeds where scarcely any other plant than this Rib-grass appeared, it was so distasteful to cattle as to be almost entirely refused by them. He adds, that its upright mode of growth, compared with *P. média*, the leaves of which grow flat on the ground, will recommend it, or at least lead to its not being molested, on the pasture. The latter plant, he says, should always be treated as a weed. An abundant growth of the Rib-wort is always indicative of a dry soil.

The seeds of this plant afford some mucilage, though in much less quantity than those of several foreign species of plantain. The seeds of *P. Psýllium*, *arenária*, and *Cýnops*, which are peculiarly mucilaginous, have been used instead of linseed and marsh-mallows in demulcent drinks; and both in France and India the seeds of some of the genus are commonly prescribed by physicians. The seeds of *P. arenária* are also said by M. de Candolle to be exported in considerable quantities from Nismes

and Montpellier to the North of Europe, to be used by manufacturers of muslins in giving stiffness to their fabrics.

4. *P. marítima* (Sea-side Plantain).—*Leaves* linear, grooved, fleshy, convex below; *stalk* rounded; *spike* cylindrical; *bracts* egg-shaped and pointed; *sepals* not winged; *tube* of the corolla downy; *capsule* 2-celled, cells 1-seeded; *root* perennial. This is not an unfrequent plant on salt marshes in the clefts of sea-rocks, on muddy banks, and at the bases or on the slopes of mountains. It varies much in size, its leaves being sometimes not more than an inch, and at others a foot long. It is readily known from the other species by these slender leaves, and by its greater succulence, and paler green tint; but the spike, except in being slighter and longer, much resembles both in flower and seeds that of the Way-bred Plantain, and like that may be seen from June to September or October. It has, in common with most plants of the salt marsh, a saltish flavour, and probably the wild birds eat its young buds and seeds, for these are greatly relished by the caged goldfinch. Soda is obtained in Egypt from one of the plantains, *P. squarrósa*, and most likely it would be yielded also by this species. Two varieties occur rarely among rocks. In the one the leaves are almost flat, and somewhat lanceolate, toothed and smooth, with a densely hairy stalk. This is the form termed *major;* while a variety called *minor* has linear lanceolate leaves, which as well as the stalk are densely hairy. In this latter form, which is found in the Orkneys, the leaves are sometimes almost thread-like.

5. *P. Corónopus* (Buck's-horn Plantain).—*Leaves* linear, pinnatifid and toothed; *stalk* rounded; *bracts*


1
2

egg-shaped and awl-shaped; *lateral sepals* with a membranous fringed wing at the back; *capsules* 4-celled; *cells* 1-seeded; *root* annual. This is a singular little plant, with all the general appearance of the other plantains, save in its cut leaves. These are more or less downy, usually prostrate, and often a good deal tinged with red, especially when growing on chalk cliffs by the sea. The plant is often common on sea cliffs, as at Dover, where one might easily gather a basket-full in a few minutes; and it grows also on gravelly sterile soils, both near the coast and on inland places. It bears in June and July a slender spike with very conspicuous yellow anthers, on a stalk about four or five inches high. The leaves vary much in size and degree of downiness. Though they have a peculiar, and to us a very disagreeable flavour, yet they were formerly used in salads.

2. Littorélla (Shore-weed).

1. *L. lacústris* (Plantain Shore-weed).—*Fertile flowers* sessile; *barren flowers* on stalks; *leaves* all from the root, linear, fleshy, somewhat channelled; *root* perennial. This Shore-weed would remind us by its slender succulent leaves of the Sea-side Plantain, but as its flowers develope themselves we find them very unlike those of that genus. The solitary barren flowers are raised each on a stalk from two to four inches long; they are greenish-white, cup-shaped, with very long styles, and generally erect. The fertile flowers are seated among the leaves which surround the stalks of the taller flowers. The blossoms expand in June, and the leaves, which are all from the root, are about two inches in length. The

plant, though not generally distributed, is locally abundant on moist sandy and stony places, and is very plentiful on the margins of the Highland lakes, where it forms quite a turf.

Sub-Class IV.—Monochlamydeæ.

Flowers with a single perianth; that is, having a calyx or corolla or neither, but never with more than one floral covering. In this Sub-class it is sometimes doubtful whether the leaves which enclose the stamens and pistils should be called a calyx or a corolla: hence the word perianth is used to denote either the sepals or petals, which enclose the organs of fructification.

Order LXVIII. AMARANTHACEÆ.—THE AMARANTH TRIBE.

Perianth 3—5-parted, chaffy, not falling off; *stamens* 3—5, opposite to the segments of the perianth; *ovary* free, 1-celled; *style* 1 or none; *stigma* simple or compound; *capsule* membranaceous, 1-celled. This Order, which is closely allied in characters to the following, differs from it in habit. It consists of herbs and rarely of shrubs, with leaves without stipules. Several of the species are used as potherbs.

1. Amáranthus (Amaranth).—*Pistils* and *stamens* in separate flowers on the same plant; *perianth* 3—5-parted;



1 WILD AMARANTH
Amaranthus blitum

2 BEET
Beta vulgaris

3 STINKING GOOSEFOOT
Chenopodium olidum

4 MANY SEEDED G
C polyspermum

stamens 3—5; *styles* 3; *capsule* 1-celled, 1-seeded, bursting transversely. Name from *a*, not, and *maraino*, to fade, on account of the lasting nature of the flower of some of the species.

1. Amarán'thus (Amaranth).

1. *A. Blítum* (Wild Amaranth).—*Flowers* 3-cleft with 3 stamens, in small axillary clusters, the segments very obtuse; *leaves* on long stalks, inversely egg-shaped, narrowed at the base; *perianth* as long as the bracts; *stem* diffuse, angled and furrowed; *root* annual. This plant is not truly wild, and only half naturalized, being found occasionally on low waste grounds about London and Cambridge, and in Huntingdonshire, on heaps of refuse near houses. It bears its small greenish flowers in July, but it has little claim to the name of the "undying one," which was won for the genus by some of the handsome garden species, and some of which, as the Cockscombs, Globe Amaranths, and Prince's Feathers, are very generally cultivated. The common *Amaranthus caudatus*, the Flower Gentle of the old writers, excited the greatest delight on its introduction into the British garden. Gerarde, who says that it far exceeded his powers of description, adds, "and I think the pensile of the most curious painter will be at a stay, when he shall come to set him down in his most lively colours."

Most of the species of Amaranth abound in a mild nutritious substance which fits them for edible vegetables, and our wild Amaranth or Strawberry Blite, as it is often called, is, in Gascony, boiled and eaten. The little red fruits, something like strawberries, but of a deeper

crimson, are ripened on the plant by the end of August. They are very juicy, and stain the fingers with their red hue. They were formerly used by cooks in colouring puddings. In Canada they were at one time employed for making ink, but the colour of this was so fleeting that sometimes the writing had quite faded away from the paper before the letter reached England.

The name of Blitum and Blite are derived from the Celtic *blith*, insipid. The French call the plant *Blète;* the Germans, *Beermelde;* the Italians, *Blito.*

Order LXIX. CHENOPODEÆ.—GOOSEFOOT TRIBE.

Perianth 5-lobed, not falling off; *stamens* 5, rarely 1 or 2, from the base of the perianth and opposite its lobes; *ovary* 1, superior or adhering to the tube of the perianth; *styles* 2 or 4, rarely simple; *stigma* undivided; *fruit* 1-seeded, enclosed in the perianth, which often becomes enlarged or fleshy. The order consists of shrubby or herbaceous, mostly succulent plants, with inconspicuous flowers. Some of the species have flowers with pistils only, others with stamens only, and others bearing both pistils and stamens. They are common in most temperate climates, especially on the sea coast. They are divided into four groups :—

I. Chenopodeæ (The True Goosefoot group).

Flowers mostly perfect; stem without joints.

1. Béta (Beet).—*Perianth* deeply 5-cleft; *stamens* 5; *stigmas* 2; *fruit* 1-seeded, adhering to the tube of the

fleshy perianth. Name from the Celtic *bwyd*, or *biadh*, food or nourishment, many species being nutritious.

2. Chenopódium (Goosefoot).—*Flowers* usually all perfect; *perianth* deeply 5-cleft, remaining unaltered, and finally closing over the single seed; *stamens* 5; *stigmas* 2. Name from the Greek *chen, chenos*, a goose, and *pous*, a foot, from the form of the leaf in some species.

II. Atripliceæ (The Orache group).

Flowers imperfect; stem without joints.

3. Átriplex (Orache).—*Stamens* and *pistils* mostly in separate flowers, sometimes united; *barren flower*, *perianth* deeply 5-cleft; *stamens* 5; *fertile flower*, *perianth* of 2 valves; *stigmas* 2; *fruit* 1-celled, covered by the enlarged perianth. Name from the Greek *a*, not, and *trephein*, to nourish.

III. Salicorneæ (The Glasswort group).

Flowers perfect; stem jointed.

4. Salicórnia (Glasswort).—*Perianth* top-shaped, fleshy, undivided; *stamens* 1—2; *style* very short; *stigma* 2-cleft; *fruit* enclosed in the dry perianth. Name from *sal*, salt, and *cornu*, a horn, from the alkaline salt abounding in the plant, and from its horn-shaped branches.

IV. Suædeæ (The Sea-Blite group).

Flowers usually perfect; stem without joints.

5. Suæda (Sea-Blite).—*Perianth* 5-cleft, without a wing at the back; *stamens* 5; *style* 0; *stigmas* 2—3;

flowers with two bracts at the base. Name from *suæd*, the Arabic appellation of another of the species.

6. Sálsola (Saltwort). — *Perianth* 5-cleft, with a wing at the back; *stamens* 5; *styles* 2. Name from *sal*, salt.

1. Béta (Beet).

1. *B. vulgáris* (Common Beet).—*Stems* erect or prostrate, angled, branched; *leaves* egg-shaped, narrowed into a leaf-stalk; *spikes* long, narrow, somewhat erect, leafy, panicled; *flowers* 1—4 together, sessile; segments of the *perianth* with entire keels; *root* biennial or perennial. This is a very common sea-side plant in England, as well as on some southern districts of Scotland. It grows on sea-cliffs, sea-beaches, muddy shores, and also in salt marshes, not of the sea only, but of some rivers, which, like the Medway in Kent, partake of the saltness of the sea. It has a tall succulent stem, often two feet high, sometimes prostrate below, and afterwards ascending; and its leaves, which are in summer of a rich deep uniform green, vary in autumn to the most beautiful shades of crimson and purple. As some of the foliage retains its rich verdant hue, the plant exhibits the most lovely tints just when vegetation in general is assuming the "sere and yellow leaf;" and the rich crimson seems to the author to be deeper and more general when the plant is growing on the chalk cliff, than when on the muddy shore or salt marsh. The leaves are thick, succulent, glossy, and waved; the lower ones on stalks; the upper ones on the flowering

stem. There is nothing attractive in the flowers, which from June to September grow in leafy spikes, the numerous small green blossoms being arranged about two together, with a small pale-green leaf at the base of each flower or pair of flowers. The root is large, thick, and fleshy, and has a sweetish flavour.

Large quantities of this Sea-Beet are to be found on many shores, as on those of Dover; and it is sometimes gathered and carried about for sale, but is not valued as it deserves to be. The author, who has tested the worth of several plants used by our forefathers, either as boiled vegetables or as salad herbs, has found many of them little suited to the palates long accustomed to the cultivated vegetables now so common; but the Sea-Beet deserves all its old commendations, and forms a truly excellent dish, not at all inferior to garden spinach, and perfectly wholesome. It requires, however, rather more attention in the washing previously to boiling, as sandy particles are often dashed upon it on stormy days, though it grows above the ordinary tide-mark.

Many botanists consider that our Beet is the wild form of the cultivated Beet; hence the same name, *B. vulgáris*, is given to it. There are some, however, who, like Mr. Babington, having doubts of its identity with that plant, retain the name given by Linnæus to our native species, of *B. marítima*. The cultivated Beet is a native of Southern Europe, and a well-known culinary root, ornamenting the dish of salad with its deep red slices, and eaten besides, either pickled or boiled. It has, too, been candied, to form a sweetmeat, and has been used as a substitute for coffee. It also

yields sugar, though this seems to be furnished more abundantly by some other species of Beet. The French call the Beet, *Bette*, or *Betterave;* the Dutch, *Biete;* and the Italians, *Bieta.* The white Sicilian Beet (*B. Sícula*) is extensively cultivated in Switzerland and Germany. Its leaves are used as spinach, and their stout midribs and foot-stalks, called "chards," are boiled and eaten like asparagus. The Mangel-wurzel of our fields is a species of Beet, and from its size and highly nutritive quality it obtained this name, which signifies "root of scarcity."

2. Chenopódium (Goosefoot).

* *Leaves undivided.*

1. *C. ólidum* (Stinking Goosefoot).—*Leaves* egg-shaped, with a wedge-shaped base, entire, mealy; *flowers* in leafless dense spikes; *stem* spreading; *seed* shining, slightly rough, very small; *root* annual. This plant was called by old writers Stinking Arrach, and Dog's Arrach. Few of our native plants possess so disgusting an odour; indeed, with the exception of some species of fungus, it is unrivalled in this respect. The leaves are small and stalked, and feel to the touch as if greased, while a powdery substance is thickly scattered over their surface. When the foliage is handled we become more conscious of the odour of putrid fish existing in this powder; and M. Chevalier has discovered a circumstance in this plant unknown in any other, which is, that it disengages ammonia during vegetation. When the plant is distilled along with a solution of common

soda, a volatile alkaline substance of a strong fishy odour passes off, which has been called by chemists *trimethylamine;* and it is very remarkable, that if herring brine be distilled in the same way, along with soda, the same volatile substance passes off in still greater abundance than from the Goosefoot. Professor Johnston remarks on this: "In a living and growing plant, therefore, and in the substance of dead and decaying fish, one and the same chemical compound is naturally produced, and imparts to each the same well-known and offensive odour, for which it is everywhere remarkable. This history of this substance, *trimethylamine*, presents also an interesting illustration of the way in which chemistry throws light on natural phenomena. It was formed and obtained in the laboratory by special chemical processes, and its peculiar properties ascertained before it was extracted, either from the evil-smelling plant, or from the decaying fish. It was the smell of the artificial compound which suggested first that it might possibly be the cause of the repulsive odour of the living plant, and afterwards of that of the dead animal. Subsequent researches showed the correctness of these conjectures, by actually extracting it from both. As is the case with some of the natural vegetable perfumes, therefore, we can now prepare by art the stinking constituents of the Goosefoot, should their production ever be likely to lead to profit." The Professor suggests that it may probably be used for some of those fishy-smelling compounds used at table, such as anchovy sauce; or may be employed by the cook in giving a flavour to imitate that of oyster

patties, or similar dishes, usually made of lobster, crayfish, shrimps, or other crustaceans.

This Goosefoot grows on waste places, about walls, and by road-sides, especially in the neighbourhood of the sea. It was once highly valued for the antispasmodic medicine furnished by its juices, and it is still used in country places for this purpose; while a few years since it was cultivated in the herb gardens of Surrey, and annually sold in Covent-Garden market for its medicinal uses. Its small green blossoms grow in dense spikes, in August and September, and the whole plant is very succulent.

2. *C. polyspérmum* (Many-seeded Goosefoot).—*Leaves* egg-shaped, sessile; *flowers* in branched, axillary, somewhat slender spikes; *root* annual. The stems of one variety of this Goosefoot are all prostrate, the leaves blunt, and the spikes leafless. This is found in Cornwall; but a more frequent variety has the stem erect, the leaves acute, and the spikes leafy. This is the *C. acútifolium* of some botanists. The spikes of flowers, however, are very variable, and sometimes leafy and leafless on the same plant; hence the forms are not distinct. This Goosefoot is found, but not very commonly, in damp waste places. It varies from four inches to a foot in height; and the leaves have usually a good deal of redness. The flowers, which appear in August and September, are greenish, or tinged with red, and are rendered pretty by their numerous shining seeds, which are deep brown and minutely dotted, and which are not concealed by the perianth.



1 UPRIGHT GOOSEFOOT
Chenopodium urbicum

2 NETTLE LEAVED G
C. murale

3 MAPLE LEAVED G
C. hybridum

4 WHITE G
C. album

* * *Leaves toothed, angled, or lobed.*

3. *C. úrbicum* (Upright Goosefoot).—*Leaves* triangular, toothed, or nearly entire, their base contracted into the leaf-stalk; *spikes* erect, nearly leafless, compound; *seeds* very minutely rough, blunt at the edge; *root* annual. A variety of this plant occurs about Oxford, having leaves with short triangular teeth; and a common form, sometimes called *C. intermédium*, has large acute teeth. The Upright Goosefoot is found on waste places near walls, and about towns and villages, in many parts of the kingdom, though it is scarcely wild in Scotland. The leaves are large, of a pale almost glaucous green tint, and in the common form deeply and irregularly toothed. The flowers grow in spikes in August and September, and are pale green, and the seeds are almost as large as rape seeds. Dr. George Johnston, remarking some years since on this plant, says, "It is interesting as the subject of a strange story, which purports that this weed could, by cultivation, be turned into a real strawberry; and relative to which there is a curious letter from the hapless Josephine to her gardener in her Memoirs."

4. *C. murále* (Nettle-leaved Goosefoot).—*Leaves* shining, egg-shaped, somewhat rhomboid, acute, sharply toothed, entire at the base; *flowers* in spreading, branched, leafless cymes; *seeds* minutely granulated, acutely keeled at the edge; *root* annual. This species, which grows on waste places near towns and villages, has shining leaves, and bears greenish spikes of rather distant flowers, during August and September.

It has an unpleasant odour, but not of the same nature as that of the Stinking Goosefoot; and its seeds are much smaller than those of the last species.

5. *C. hýbridum* (Maple-leaved Goosefoot).—*Leaves* somewhat heart-shaped, with angular, large, distant teeth; *flowers* in crowded, panicled, leafless cymes; *seeds* dotted, their edge blunt and not keeled; *root* annual. This is not a common plant, but it occurs in waste places and cultivated fields about London, Colchester, and some other places. It flowers in August, and has slender stems and large leaves, with remarkably angular teeth. This plant was said by Tragus to be deleterious both to men and swine; but this is very doubtful, as the Goosefoots are a very harmless family of plants.

6. *C. álbum* (White Goosefoot).—*Leaves* egg-shaped, somewhat rhomboid, deeply toothed, entire below; upper ones lanceolate, nearly entire; *flowers* in branched, dense, nearly leafless spikes; *seeds* smooth and shining, bluntly keeled at the edge; *root* annual. In one form of this plant the leaves are covered with a whitish mealy substance, and the upper part of their margins is bluntly toothed, while another variety has green and almost entire leaves, and is the *C. víride* of Linnæus. This is the most common of all the Goosefoots, and grows in waste places near houses, and in cultivated fields. Its stem is from one to three feet high, and it bears from July to September clustering spikes of greenish flowers. The fleshy leaves were formerly boiled as greens, but they are probably little used now, as they form but an insipid dish, decidedly inferior to that made of the



1 FIG LEAVED GOOSEFOOT
Chenopodium ficifolium

2 OAK LEAVED C
C glaucum

3 RED G
C rubrum

4 MERCURY C
C bonus

common nettle. The mealy substance on their surface suggested the name of White Goosefoot for this plant, which is in France called Silver-weed (*L'anserine*). The Germans call it *Gänsefuss;* the Dutch, *Ganzevoet;* and the Danes, *Guasefod.*

7. *C. ficifólium* (Fig-leaved Goosefoot).—*Leaves* thin, stalked, unequally 3-lobed, from a wedge-shaped base, lobes ascending, middle lobe elongated, toothed, blunt, upper leaves linear-lanceolate and entire; *flowers* in erect nearly leafless racemes; *seeds* shining, dotted, the edge blunt, and not keeled; *root* annual. This species is found on waste places and heaps of refuse about London and Yarmouth, flowering in August and September. The seeds are smaller than in *C. álbum.*

8. *C. glaúcum* (Oak-leaved Goosefoot).—*Leaves* all oblong, toothed and cut at the margin; *flowers* in erect, nearly simple, leafless spikes; *seeds* very minute, reticulated, acutely keeled at the edge; *root* annual. This plant grows on sandy soils on waste places in several parts of the kingdom, and is common about London. It has a spreading, often prostrate, stem, and greenish flowers in August. The leaves are mealy beneath.

9. *C. rúbrum* (Red Goosefoot).—*Leaves* triangular, somewhat rhomboid, toothed, and serrated; *spikes* erect, dense, compound, leafy; *seeds* very minute, smooth, shining, blunt, and slightly keeled at the edge. A form of this plant with triangular leaves, somewhat toothed, prostrate stems, and its minute shining seeds acutely keeled at the edge, is by some writers considered a distinct species, and called *C. botryódes.* It is found on waste ground near the sea in Cornwall, Suffolk, and

Northumberland. The common Red Goosefoot is quite a frequent plant of salt marshes in England, and grows also near houses and about walls, but it is rare in Scotland, and, perhaps, not truly wild there. Its stem is erect, about a foot high, and generally reddish, as are also the thick compound spikes, which are numerous on the plant in August and September. The flowers are generally incomplete, and the stamens one or two. The salt or alkali in the juice of this species crystallizes on the surface of the stem and gives it a glassy appearance.

10. *C. Bonus Henrícus* (Mercury Goosefoot, or Good King Henry).—*Leaves* halberd-shaped, triangular, mostly entire; *spikes* compound, terminal and axillary, erect, leafless; *stigmas* elongated; *seeds* smooth and shining; *root* perennial. This is a dull-looking dark green succulent plant, about a foot high, with spikes of dull green flowers in August, and large rather thick leaves. The leaves when boiled form a tolerably good vegetable, resembling spinach; and the plant was of old times much cultivated in gardens, and was so very generally a few years since, in the cottage plots of Boston, in Lincolnshire. Though hardy and of early growth, it scarcely affords such an amount of nutriment as would have merited its name; but this was given at a period when good edible vegetables were fewer. One of the Goosefoots of Peru (*C. Quinoa*), called by the people Petty Rice, is a most important vegetable of that land. Its leaves form a common dish when boiled, but it is the small round nutritious seeds which are of greatest value, and the flour or meal yielded by them is very similar to oatmeal. On the high table-lands of Peru



1 [illegible] ORACH
Atriplex portulacoides
2 [illegible] SEA O
Ap[illegible] laciniata
3 [illegible] SEA O
A. laciniata
4 [illegible] ORACH O
A[illegible]

and Chili this Goosefoot is extensively cultivated, growing at an elevation at which neither barley nor rye would ripen. Professor Johnston remarks of this plant, that it is still the principal food of the people who occupy these high lands, and that before the introduction of European grains by the Spaniards, it probably formed the chief nourishment of the Peruvians. "A grain so nutritious," says this writer, "is a very precious gift to the inhabitants of the elevated regions of the Andes. Without it these lofty plains could only be runs for cattle, like the summer pastures among the valleys of the Alps."

Our Good King Henry has ceased to be regarded as an important vegetable, though it is still occasionally boiled by cottagers. It is a common plant by waysides, and in waste places, and often grows among the broken archways and walls of old ruins.

3. Atriplex (Orache).

1. *A. portulacóides* (Shrubby Orache, or Sea Purslane). —*Stem* shrubby; *leaves* inversely egg-shaped, lanceolate, entire, narrowed below; *perianth of the fruit* very shortly stalked, inversely triangular, rounded below, with 3 equal lobes above, and covered at the back with sharp points; *root* perennial. This is a plant having a woody stem, and foliage of silvery whiteness and much succulence. It is a low shrub or trailer, and it is not uncommon on the sea-shore, on muddy or marshy soils both of England and Ireland, and is often grown in gardens in pots. It is from one to

three feet high, and bears axillary spikes of small yellowish green flowers from August to October, but like all the Oraches, is most readily distinguished from the other species when in fruit. When planted in the garden it requires to be placed in a gravelly soil. Its leaves make a good pickle.

The different species of Atriplex, like many of our sea-side plants, are remarkable for the white or bluish mealy powder which covers them, so that they may be completely immersed in water without being wetted. The Halimus Orache, or Sea Purslane, so common in the hedges of Southern Europe, has a still more mealy surface than this, and is a larger shrub. Mr. Backhouse tells us that this plant is, in Australia, commonly called Botany Bay greens, from having been very useful some years since, during a season of scarcity in that land. Some writers include our shrubby purslane and the following species in a distinct genus, called Obione.

2. *A. pedunculáta* (Stalked Sea Orache).—*Stem* herbaceous, zigzag, branched; *leaves* inversely egg-shaped, entire, narrowed below, upper leaves narrower; *perianth of the fruit* long-stalked, inversely wedge-shaped, 2-lobed, with a small intermediate tooth; *root* annual. The Oraches are generally difficult of distinction, and botanists differ as to their arrangement into species; but the Stalked Sea Orache is readily distinguished by its long flower-stalks, and the peculiar shape of the perianth which encloses the seed. It varies much in size, and is dwarf or luxuriant according to the degree of moisture in the soil. It grows on muddy shores and salt marshes

in the east and south-east of England, and is found in several parts of Kent, Suffolk, Norfolk, Lincolnshire, and other counties, but is not a frequent plant.

* *Stem uniformly buff-coloured, nearly without stripes.*

3. *A. laciniáta* (Frosted Sea Orache).—*Stem* herbaceous, spreading, prostrate; *leaves* triangular, somewhat rhomboid, cut, mealy beneath; *spike of sterile flowers* dense, leafless; *fertile flowers* axillary; *perianth of the fruit* rhomboid, 3-lobed, the back 3-ribbed, and often tubercled; *seeds* rough, opaque; *root* annual. This plant, which is the *A. rósea* or *A. arenária* of some botanists, is not unfrequent on the sea-shore, and is characterised by its buff stem. It is a very silvery plant, every part of it being almost white. The flowers appear in July and August, and the perianth of the fruit is very large and broad.

* * *Stems green, with resinous, usually reddish stripes, and lower leaves with lateral spreading or ascending lobes.*

4. *A. rósea* (Spreading Fruited Orache).—*Stem* spreading, procumbent or ascending, with spreading branches; *leaves* mealy, egg-shaped, triangular, somewhat 3-lobed, unequally cut and toothed; *upper leaves* lanceolate, toothed, and often 3-lobed at the base, or nearly entire; *perianth of the fruit* rhomboid, acute, toothed, with two irregular rows of tubercles on the back; *spikes* axillary and terminal, few-flowered; *seeds* tubercular, rough; *root* annual. This is a common plant of the sea-shore,

and is by some botanists not considered distinct from *A. pátula*. Mr. Babington, however, who thus describes the plant, considers it truly so, and Mr. Woods has called the species *A. Babingtónia*, after that excellent botanist.

5. *A. pátula* (Spreading Halberd-leaved Orache).—*Stem* herbaceous, erect or spreading; *lower leaves* triangular, halberd-shaped, with two horizontally spreading lobes, irregularly toothed, the upper ones nearly entire; *perianth of the fruit* toothed or entire at the margin, slightly tubercled on the back; *spikes* nearly simple, interrupted; *seeds* mostly dark brown, wrinkled; *root* annual. This is a common species on cultivated and waste lands, and often very abundant on salt marshes. It has straggling furrowed branches, and its flowers, which appear from Midsummer to autumn, are in small clusters, on long, interrupted, and axillary spikes, and often much tinged with red. The main stem is usually erect, and the others prostrate. The perianth of the fruit is variable, there being two kinds in each spike. The authors of the "British Flora" remark, that those below are larger, with a dark brown wrinkled seed; those towards the extremity smaller, with a black, shining, perfectly smooth seed." This species is by Sir J. E. Smith, Mr. Babington, and others, termed *A. hastáta*.

6. *A. deltoidéa* (Triangular-leaved Orache).—*Stem* mostly erect; *lower leaves* halberd-shaped and triangular, unequally toothed; *perianth of the fruit* entire or toothed, usually covered on the back with sharp points; *spikes* nearly simple, forming a branched, many-flowered panicle; *seeds* all shining, smooth; *root* annual. In one



1. [illegible] ARROW LEAVED ORACHE
Atriplex patula
[illegible] O
A deltoidea

3. SPREADING NARROW [illegible]
A [illegible]
4. GRASS LEAVED SCA [illegible]
[illegible]

variety of this plant all the leaves are halberd-shaped and triangular, the perianth toothed and covered with spines, and the stem and branches all erect or ascending; while in a form which constitutes the *A. mícrosperma* of some botanists, in which the stem and branches are also erect or ascending, the upper leaves are entire and halberd-shaped and awl-shaped, and the perianth rough at the back, but not toothed. This form is found near Bath; and a very rare variety occurring on the sea-coast has prostrate stems and branches, its upper leaves lanceolate and entire, and the spikes only slightly branched. This is the *A. prostráta* of some botanists. The first described form of the Triangular-leaved Orache is not infrequent on waste and cultivated ground, flowering from July to October. The seeds are black and wrinkled, not half so large as the larger kind of *A. pátula*, but similar to the smaller seeds of the spike of that plant.

7. *A. angustifólia* (Spreading Narrow-leaved Orache). —*Stem* erect or prostrate, upper leaves lanceolate, entire, the lower ones with two ascending lobes from a wedge-shaped base; *seeds* smooth and shining; *root* annual. In one form of this plant the perianth of the fruit is rhomboidal with ascending lateral angles, entire, smooth on the back, and the spikes interrupted and nearly unbranched; in another, the lower leaves are deeply cut and toothed; the perianth of the fruit also toothed, and usually tubercled at the back, and the spikes dense and many flowered. The last variety is the *A. erécta* of some writers, and the species, in all its forms, is thought by some botanists to be but different states of the *A. pátula*.

This plant is not unfrequent on cultivated and waste ground. It was one of the species most frequently in former days boiled for spinach, and its foliage is perfectly wholesome, though the seeds are said to be emetic. The Orache was in former times commonly called Arrach; and Parkinson says of the plants, "There are many dishes of meate made of them, while they are young; for, being almost without savours of themselves, they are the more convertible into what relish any one will make them with sugar and spices, &c." The garden species, *A. hortensis*, which is a native of Tartary, was once very generally cultivated in this country for the table, and was called Orach, Orage, or Mountain Spinach. An old writer says, "It is so commonly known to every housewife that it were labour lost to describe it;" but some old medical writers considered that its use caused pallor and dropsy. Either the wild or cultivated kind was considered as an excellent outward application to inflamed throats, and the decoction was commonly prescribed in cases of jaundice. The garden Orache is still cultivated in Paris, and used as we do spinach. The French call the plant *Arroche;* the Germans and Dutch, *Melde;* the Italians, *Atrepice;* the Spaniards, *Armuelles*, and the Russians, *Lebeda*. The *A. hortensis* is sometimes found in uncultivated places, as about Saffron Walden; but has, doubtless, escaped from some old garden.

* * * *Leaves all without lobes.*

8. *A. littorális* (Grass-leaved Sea Orache).—*Stem* erect; *leaves* lanceolate, entire, or toothed; *perianth of the fruit*

toothed, covered at the back with short points; *root* annual. In one form of this plant the leaves are very narrow and entire, and the perianth of the fruit is egg-shaped, rhomboid, acute, toothed and tubercled on the back, with spreading points. This is readily distinguished by its open, pointed perianth. In the form often described as *A. marína*, the leaves are egg-shaped and lanceolate, irregularly toothed or rarely entire, and the perianth of the fruit is inversely heart-shaped and triangular, blunt, toothed, tubercled on the back, and closed. Both forms are common in salt marshes. The perianth of the fruit is very remarkable, being among the largest of the British species, and opening like a bivalve shell. Within this tubercled green covering lies a large seed, shaped like a bean, within which may be seen, without the aid of a microscope, a small green coil enclosed in a milky substance, and expanding at one end into cotyledons or seed-leaves. The plant is chiefly found on the eastern coasts of this kingdom. The under parts of the leaves are mealy, as are also the flowers, which grow in rather crowded, axillary and terminal spikes from July to September.

A very large coarse species, the Shining-leaved Orache (*A. nítens*), has been found by Dr. Bromfield on the sea-shore at the Isle of Wight. It is a common plant in the east of Germany, but must be regarded as an accidental one on our own coast. It has an erect branched stem, with triangular, pointed leaves, which are shining on the upper surface and glaucous beneath, the lower leaves becoming heart-shaped and halberd-shaped, while the upper are elongate and triangular. The perianth

of the fruit is egg-shaped, tapering at the point, entire, smooth on the back, thin and finely reticulated, and opening to the base.

4. Salicórnia (Glasswort).

1. *S. herbácea* (Jointed Glasswort).—*Stem* herbaceous, divisions compressed, rather thickened upwards, notched; *spikes* cylindrical, tapering, stalked; *root* annual. In the usual form the stem of this plant is erect; but in one, sometimes described as *S. procúmbens*, the stem is prostrate. The Glasswort is a singular plant, very abundant in our salt marshes, and though its flowers are inconspicuous, and it has no leaves, yet it is truly ornamental to the grassy plain. Its height is from four to eight inches, and its texture succulent. The stem is formed of numerous fleshy tubes, which are smooth, and almost as clear as if they were cut out of green glass; but the plant loses all its beauty in the herbarium, where it shrivels up. The spikes of flowers are jointed like the stem, bearing at the base of every short joint a cluster of three green flowers, each of which contains one or two stamens. These appear in August and September. The perianth of the fruit has a narrow circular wing, and the seed is about twice as long as it is broad.

Both this and the next species abounding in soda, the plants received the name of Glasswort from their old use in the manufacture of glass, a use now superseded by the later discoveries of Chemistry. The plant is the *Glasschmalz* of the Germans; the *Zoudkruid* of the



1 JOINTED GLASSWORT
Salicornia herbacea

2 CREEPING G
S radicans

3 SHRUBBY SEA BLITE
Suæda fruticosa

4 ANNUAL S B
S maritima

5 PRICKLY SALTWORT
Salsola kali

6 ANNUAL KNAWEL
Scleranthus annuus

7 PERENNIAL K

Dutch, and is called in France *Salicorne*, and in Denmark, *Salturt*. The French also term it *Crestemarine;* and people living near our salt marshes generally call it Samphire. It is gathered, while in flower, and pickled like the true Samphire, to which, however, it is very inferior. Our native species, like the other succulent sea-side plants, have a saline juicy flavour. They are much relished by cattle, and combine with the sea-air to invigorate them greatly. The salt plants in some parts of Australia are very numerous, and are of great value to the farmers. Sir J. L. Mitchell, referring to the high lands near Sydney, says, "On the salt plains in these places Nature amply provides for this taste of the large herbivorous animals for salt. Our sheep nibbled at the Mesembryanthemums, and the cattle ate greedily of various bushes whose leaves were salt to the taste. The colour of the leaves of such bushes was generally of a light bluish green, and there were several species. That with the largest leaves was called by Dr. Brown Salt-bush. It was the *Rhagodia parabolica*." When the salt was removed from this plant, the latter proved to be a very useful vegetable food for man. This was accidentally discovered in the course of some experiments instituted by Mr. Stephenson for ascertaining the proportion of salt contained in the foliage. It was then found that the leaves, after twice boiling, yielded as much as a twentieth part of salt, nearly two ounces having been obtained from two pounds of leaves. Cattle flourish exceedingly on land where this plant grows.

Our Glasswort is sometimes called Sea-grass, Crab-grass, or Frog-grass.

2. *S. radícans* (Creeping Glasswort).—*Stem* woody, prostrate, and rooting; *articulations* compressed, scarcely thickened, notched at the top; *spikes* oblong, blunt; *root* perennial. This is a rare plant, inhabiting the muddy sea shore, and is found on some parts of the Norfolk, Sussex, and Kentish coasts, flowering in August and September. It differs from the last species in its prostrate, rooting stem, in its broader seed, and also in its sessile spikes of flowers. Mr. Babington remarks, that in the Jointed Glasswort the middle flower of the three is always the highest, but in this species it is scarcely higher than the others. It is the *S. fruticósa* of some botanists.

5. Suæda (Sea-Blite).

1. *S. fruticósa* (Shrubby Sea-Blite).—*Stem* erect, shrubby; *leaves* semi-cylindrical, blunt; *styles* 3; *seeds* smooth and shining; *root* biennal. This is a rare plant, inhabiting the south and east coasts of England. It has a stem about three feet high, with many straight leafy branches, and axillary green flowers, growing in small clusters from July to October. It has been by various writers included in the genus *Chenopodium*, *Salsola*, or *Schoberia*.

2. *S. marítima* (Annual Sea-Blite).—*Stem* herbaceous; *leaves* acute, semi-cylindrical; *styles* 2; *seeds* horizontal, reticulated; *root* annual. This is a very common plant, much smaller than the foregoing, and often growing on marshes as well as at the base of cliffs and sea-walls, and about boat-yards near the sea. It has small

greenish flowers from July to October, either one or two growing in the axils of the leaves, and two small acute bracts placed beneath each. It is a succulent plant, of a glaucous green hue, often much tinted with red, and of a saltish flavour. The stem is usually about a foot high, and sometimes erect, but more often the stem and branches spread over the ground. The seed in both species of Sea-Blite is horizontal, and this is a great point of distinction with modern botanists.

6. Salsóla (Saltwort).

1. *S. Káli* (Prickly Saltwort).—*Stems* herbaceous, prostrate; *leaves* awl-shaped, spinous, rough; *flowers* axillary, solitary; *segments of the enlarged perianth* cartilaginous; *root* annual. This is an easily recognised plant, with its rich green, prostrate, branched, angled stem, and its succulent awl-shaped leaves, terminated each by a prickle. The green, sessile, solitary flowers appear in July, having at the base of each three leaf-like bracts. The seed of this plant is a very interesting and curious object under the microscope. It is deeply set between three angular spinous leaves; the perianth opens into five cartilaginous valves; the covering of the seed is tough and membranous, and from the base of this spring the stamens. This Saltwort seems very general on sandy shores throughout the world, and is the *Qali* or *Algali* of the Arabians. Both this and the other species, as well as a large number of other saline plants, yield the barilla of commerce. The alkaline salt furnished by their ashes was some years

since of great economical importance, and the plants were largely cultivated in the south of France, and on the Mediterranean shores of Spain, especially in the huerta of Murcia. During the wars in the early part of this centruy, the demand for soda rendered its price in the market very high, and the growers of the Saltwort endeavoured to cultivate the plant at a greater distance from the shore; they soon found, however, that the plan was unsuccessful. So long as the field sloped upwards from the sea, so as that the plants were under the direct influence of the sea-breeze, the Saltworts abounded in soda, but directly they began to slope inwards, and were in some measure removed from the saline airs and vapours, and from the particles of salt borne by the winds, they failed to secrete soda, and yielded potash.

The French call this Saltwort *La Soude;* and the Germans, *Die Sodapflanze.* It is the *Loogkruid* of the Dutch; the *Soda* of the Italians; the *Sosa* of the Spaniards; and the *Sallyden* of the Danes. It is in country places often called Sea-grape.

Order LXX. SCLERANTHEÆ.—THE KNAWEL TRIBE.

Perianth of one piece, tubular; *limb* 4—5 cleft; *stamens* 1—10, inserted into the mouth of the tube; *ovary* 1-celled; *styles* 2 or 1; *fruit* membranous, enclosed within the hardened tube of the perianth; *seed* solitary. The Order consists of small inconspicuous herbs, with opposite leaves, without stipules, and with minute flowers.

1. Scleránthus (Knawel).—*Perianth* 5-cleft; *stamens* 10: 5 or more being often wanting; *styles* 2. Name from *scleros*, hard, and *anthos*, a flower, from the hard nature of the perianth.

1. Scleránthus (Knawel).

1. *S. ánnuus* (Annual Knawel).—*Calyx of the fruit* with erect, or erect-spreading, rather acute segments, edged with a narrow white membrane; *stem* spreading; *root* annual. Although this plant is very frequent in corn-fields, especially where the soil is of gravel, yet it is noticed by few save the botanist. It is about two or three inches high, with many spreading stems and awl-shaped leaves; and it bears, from July to September, small green flowers, which either grow in the forks of the stems, or form small terminal clusters. The slender stems are light green, slightly downy, and much branched and entangled; the leaves keeled, opposite, and united at the base by a membranous fringed margin.

The Swedes are said to allay the tooth-ache by inhaling the steam from a decoction of this Knawel. It is very common in Sweden, where it is called *Tandgrås*. The French term the plant *La Gnavelle annuelle*, and the Germans *Der wilde Knauelle;* while it is known to the Dutch by the name of *Jaarlykys hardbloem*. The latter name is very expressive, as when in seed the perianth becomes quite hardened. This Knawel is common throughout Europe on sandy soils. It flowers in July, and scatters its seeds abundantly during autumn. A number of young plants shortly arise, many of which survive the winter; while some of the seeds do not vegetate till the spring following, at which season a fresh set of young plants make their appearance. Both this and the next species often occur on dry gravelly heath-lands.

2. *S. perénnis* (Perennial Knawel).—*Calyx of the fruit* with blunt, closed segments, edged with a broad white membrane; *stems* prostrate, either simple or irregularly branched; *root* perennial. This plant has pale green stems, and its small greenish flowers expand from August to November, having a variegated appearance from the broad white membrane at the edge. The plant, though not rare, is not very generally distributed. It is not unfrequent on the open sandy downs of Norfolk and Suffolk, and is very abundant in the neighbourhood of Elvedon; while in several countries of Europe it is a very common flower. In some lands the roots are attacked by the insect called the Scarlet grain of Poland (*Coccus Polonicus*). This yields a very rich crimson tint, and on this account the plant was once collected in large quantities in the Ukraine and in Lithuania for dyeing red.

The Coccus is probably still in use for dyeing silk and hair in Turkey and Armenia, as well as for colouring the nails of the women's fingers; but it is not now much used in Europe, except by the peasantry of Poland. A similar insect found on the roots of the Burnet (*Potérium Sanguisórba*), was formerly collected by the Moors for dyeing silk and wool of a rose-colour, but this, as well as a Coccus found on the Bearberry, is now neglected. The insect feeding on the Perennial Knawel is said sometimes to attack the annual species, and also to infest occasionally the roots of the Silverweed (*Potentílla anserína*). Sir J. E. Smith says that he never found the insect on any of these plants in England.

Order LXXI. POLYGONEÆ. THE PERSICARIA TRIBE.

Flowers often bearing stamens only, or pistils only; *perianth* deeply 3—6 parted, frequently in two rows; *stamens* 5—8 from the base of the perianth; *ovary* 1, not attached to the perianth; *styles* 2 or 3; *fruit* a flattened or triangular nut. This Order consists of herbaceous, rarely shrubby plants, bearing alternate leaves, having at the base membranous sheathing stipules. The stems and leaves are acid or astringent, the roots usually nauseous and medicinal; while the seeds are farinaceous and esculent. A few are handsome plants, but many, like the Dock, would be rather regarded as weeds than flowers. The true rhubarb is contained in this Order.

1. Polýgonum (Persicaria).—*Perianth* deeply 5-cleft, not falling off; *stamens* 5—8; *styles* 2 or 3; *fruit* a triangular or flattened nut. Name from *polys* many, and *gonu* a joint, from the much-jointed stems.

2. Rúmex (Dock).—*Perianth* deeply 6-cleft, in two rows, the interior segments large; *stamens* 6; *styles* 3; *fruit* a triangular nut, covered by the enlarged inner perianth. Name of unknown origin.

3. Oxýria (Mountain Sorrel).—*Perianth* deeply 4-cleft, in two rows, the interior segments large; *stamens* 6; *styles* 2; *fruit* a flattened nut, with a membranous wing. Name from the Greek *oxys*, sharp, from the acid flavour of the stems and foliage.

1. Polýgonum (Persicaria, Bistort, Knot-grass, and Buckwheat).

* *Styles* 3; *fruit triangular.*

1. *P. Bistórta* (Common Bistort or Snake-weed).—*Stem* simple, erect, bearing a single dense spike; *leaves* egg-shaped, somewhat heart-shaped, waved, the lower ones on winged stalks; *root* perennial. The Bistort is common on moist grassy places, and is, from June to September, a handsome plant bearing a cylindrical spike of small flesh-coloured flowers. The stem is a foot or a foot and a half high, the upper leaves have long sheaths, and the flowers are on short footstalks, with bracts at their base. The name of Bistort originated in the twisted form of its large root, or rather, underground stem. This is black on the outside and red within, and is one of our most powerful vegetable



1 COMMON BISTORT.
Polygonum bistorta

2 VIVIPAROUS ALPINE B.
P. vivipa rum

3 COMMON KNOTGRASS
P. aviculare

4 ROBERTS K. C
P. roberti

astringents. It contains in abundance both tannin and gallic acid, and is a good tonic medicine; and as the tannin is found, by M. Haemstaetd of Berlin, to be twice as strong as that of oak bark, the root might be well employed in the preparation of leather. Both the leaves and roots were believed by the old herbalists to have "a powerful faculty to resist all poison," and to be very useful in the Plague and other forms of pestilence; the root also was, and still is, in country places, used as a cure for tooth-ache; and a decoction of the leaves or the powdered root was considered a good outward or inward remedy for wounds. Thus we have Spenser saying—

> "Then whether it divine tobacco were,
> Or panachœa, or polygony,
> She found and brought it to her patient deare,
> Who all this while lay bleeding out his hart-blood neare."

When the tannin is removed from the root a starch-like substance remains, which can be used as food, and bread is made in Russia both from this and the root of a Siberian species. The leaves and tender shoots may be boiled for the table, and in the north of England, where the young tops are commonly eaten in herb puddings, they are called Easter giant. It was usual in Manchester, a few years since, to prepare these leaves in various ways for the daily meal. The plant is there commonly called Patience Dock, and is apparently the herb recommended by M. Soyer in his recent popular book on cookery, as the Sweet Dock, and as forming an excellent dish. Scheele detected oxalic acid in this

species. The seeds, like those of the Buckwheat, are peculiarly nutritive to poultry. Old herbalists called the plant English Serpentary, Dragon Wort, Osterisks, and Passions.

2. *P. víviparum* (Viviparous alpine Bistort).—*Spike* linear, lax, with bulbs in the lower part; *leaves* linear lanceolate, their margins rolled back, the lower ones stalked; *foot-stalks* not winged; *root* perennial.

This species, which is not unfrequent on mountain pastures in various parts of the kingdom, is abundant in the Highlands of Scotland. It is a slender plant with a stem six or eight inches high, and narrow, rich green leaves. The flowers, which expand in June and July, are of a pale flesh-colour, and the plant is remarkable for its tendency to propagate itself by bulbs, by means of which it increases rapidly, while it rarely forms perfect seeds. These little bulbs are red, and are placed at the lower part of the spike of flowers, taking the place of blossoms. The roots, which have similar properties to those of the common Bistort, are eaten in Sweden, Lapland, and Siberia. The plant is a native of very cold countries, and the Lemming, which is the smallest quadruped of the Polar regions, feeds chiefly on its roots, though eating also the grasses and vetches which grow beside it.

3. *P. avículare* (Common Knot-grass).—*Leaves* narrow, elliptical, stalked; *stipules* short, lanceolate, acute, with few distant nerves; *stem* herbaceous; *nut* about as long as, and covered by, the perianth, marked with lines with raised points; *root* annual. This is not only the commonest species of the genus, but is also one of the most frequent of our wild flowers. Sometimes it troubles

the farmer in his cornfields, sometimes it is found among the stones of the beach, or on the cliffs, or the heath or garden bed, and wherever we find any little mound of earth by the way-side, there we shall see the Knot-grass. It varies much in size and in the form of its leaves, which, though usually blunt, are sometimes pointed, and which are, in some cases, crowded, in others distant on the stems. The foliage and stems are dark, myrtle green, furnished with chaffy stipules, which finally become torn; and it bears all the summer numerous small greenish or pinkish white flowers, which before expansion are sometimes of a rich crimson tint. Though usually a straggling, prostrate plant, its stems are sometimes erect, especially if the soil is rich. The knottiness of the stem gave to the plant its old English name, and it is the "hindering Knotgrass" of Shakspeare. It appears that its decoction was formerly supposed to prevent the growth of children, as well as of the young of domestic animals. Beaumont and Fletcher allude to this supposed property: "'Twere worse than Knot-grass; he would never grow after it." Notwithstanding this, however, it has always been well known to those who tend sheep, as being not only nutritious to these animals, but much relished by them. Thus, in Milton's "Comus," we find the shepherd saying—

> "This evening late, by then the chewing flocks
> Had ta'en their supper on the savoury herb
> Of Knot-grass, dew-besprent, and were in fold,
> I sate me down to watch upon a bank,
> With ivy canopied, and interwove
> With flaunting honeysuckle."

The great abundance of seeds furnished by this plant

affords a supply to a large number of our wild singing-birds; hence its name *aviculare;* and insignificant as the wayside plant appears, it is of great service in the economy of nature. In some counties it is called Hog-weed, because so much eaten by swine. Thunberg says, that, in Japan, a blue dye, resembling indigo, is prepared from this plant, while two exotic species of the genus (*P. Chinénse* and *P. barbátum*), yield a good dark blue colour. At the Cape of Good Hope the latter species is much valued for its medicinal properties, and in India, where it is known by the name of *Aat-alarie*, an infusion of its leaves is in very general use.

The leaves of our little Knot-grass seem of late years to have been used for another purpose, which may eventually render them of much importance in some countries. The "Diario Mercantile" of Venice mentioned in the year 1852 a certain Teresa Ramor, who had raised silkworms, and procured silk from them in sixteen days, nourishing them with a leaf very different from that of the mulberry. The writer in this Journal adds, "This is the perfect realization of the discovery of Anna Rizzi, who could rear silkworms, even in winter, giving them the leaves of the grass classed by Linnæus under the name of *Polygonum Centinodes.*" The "Adriatico" of Venice stated, in addition, that this plant, given to these insects at the same time as the mulberry, was preferred by them. The plant is said to be identical with our Knot-grass, which, though not a grass in the proper sense of the word, is, like the Goose-grass and other plants, familiarly called so.



1 COMMON BUCKWHEAT
Polygonum fagopyrum

2 CLIMBING B.
P. convolvulus

3 COPSE B.
P. dumetorum

4 AMPHIBIOUS PERSICARIA.
P. amphibium

SPOTTED
P. persicaria

4. *P. Robérti* (Robert's Knot-grass).—*Leaves* distant, elliptic-lanceolate, flat; *stipules* short, with few nerves; *stem* prostrate; *nut* smooth and shining, longer than the perianth; *root* annual. This species is found on sandy sea-shores in the west of England, Wales, and Scotland, and also about Dublin. Its greenish flowers expand from July to September, and are from one to three in number in the axils of the leaves. The stems are long and straggling, and the leaves bend towards the stem. John Ray described this plant as *P. marítimum*, and Mr. Babington, who names it *P. Raii*, after that great naturalist, remarks, that it resembles *P. aviculáre* in habit, but *P. marítimum* in fruit.

5. *P. marítimum* (Sea-side Knot-grass).—*Flowers* 1—3 together, axillary; *leaves* crowded, elliptic-lanceolate, fleshy, glaucous, with edges turned under; *stipules* lanceolate, with numerous branched nerves, at length torn; *nut* smooth and shining, longer than the perianth; *root* perennial. This is a rare plant, found on the sands of the sea-shore in the Channel Islands, and near Christchurch Head on the shore towards Muddiford. Its prostrate stem is described as woody below, and often much buried; and its leaves are convex below, and diverging from the stem. Its greenish flowers appear in August and September.

6. *P. Fagopýrum* (Common Buckwheat).—*Leaves* arrow-shaped, somewhat heart-shaped; *stem* nearly upright, without prickles, branched; *angles of the fruit* even; *root* annual. The Buckwheat is a rather handsome plant, with an erect, round, wavy stem, much branched, about a foot high, and often of a reddish

tinge. During July and August, spreading panicles of pink flowers, having each eight stamens, grow at the top and the sides of the stem: and the leaves, which are at first roundish in form, gradually become arrow-shaped and taper to a long point. Both stalks and leaves remain green even in the driest weather, when almost all vegetation is withered. Though not truly a wild plant, yet it has long been naturalized in this country, and is common as a weed on cultivated lands, or on heaps of refuse and waste places.

The native country of the Buckwheat is Asia, and it was introduced into Europe about the early part of the sixteenth century, or probably earlier. Its old name of Saracen Corn, and its French name of *Bled noir*, or *Bled Sarrazin*, have led to the belief that it was brought from Asia by the Crusaders; but this inference may be incorrect, for Maize, which is an American plant, was long known in some parts of Europe by the name of Turkish Corn. Our name of Buckwheat is derived from the Beech-tree, which is in Germany called *Buche*, or *Buke*, and in Denmark *Bög;* and it was given from the resemblance of its seeds to the mast of the Beech-tree. In Germany the plant is commonly called *Heidenkorn* (Heath-corn), because it thrives well on dry heathy ground. Beckmann remarks of the Buckwheat, that there is reason to believe this grain must have been common in many parts of Germany in the sixteenth century. In a Bible printed in Low German, at Halberstadt, in the year 1552, entitled "Biblia Dudesch," the translator, who is unknown, renders the passage in Isaiah xxviii. 25, by, "he seyet bockwete,"—he soweth

buckwheat. Luther translated it, "He soweth spelt." That Buckwheat was cultivated in England in 1597, is proved by Gerarde's Herbal, and in the latter part of the sixteenth century, it is well known to have entered into the food of the poor of France.

Gerarde remarks of the Buckwheat, "It is very common in and about Namptwich in Cheshire, for food for their cattle, pullen and such like. It likewise groweth in Lancashire and in some parts of our south country, as about London in Middlesex, as well as about Kent and Essex." He calls the plant French Wheat and Bullimony, and says that in France it is termed *Dragée aux chenaux;* and in Germany, *Buckenweide.* The plant is cultivated as bread-corn in China, and in other countries, and is largely grown in some parts of Europe, as in Germany and Holland. M. Bory de St. Vincent says that when in Belgium he was shown the tomb of the person who introduced it into that country.

The cultivation of Buckwheat has never been very general in this kingdom, as it is believed not to bear well our spring frosts or winter's cold; but it is a plant of which the crop is soon gathered, and it need not long occupy the land. It has been sown more in the counties of Norfolk and Suffolk than elsewhere, and in these parts of England it is called Brank. Professor James Buckman, who in 1854 related the results of several agricultural experiments, remarks,—"I imagine that the oolites would form good soils for the growth of Buckwheat from seeds. I have had little experience of it in an economic point of view; but if found useful, from the facility with which it may be grown, it might

become a profitable plant for the corner of a garden or field."

The seeds are the best food that can be given to poultry, and are said to be nutritious to horses. Pheasants are remarkably fond of them. The flour yielded by them is made into bread in other countries, and the farmers of Germany and Holland have various dishes made of it. The hasty puddings prepared with buckwheat flour, milk, and sugar, are said to be delicious, and good pancakes are made of this flour. In England it is only used for cakes, pastry, and crumpets; for, though fine and white, its deficiency of gluten renders it less suitable for fermented bread. The flowers are much liked by bees, and the bee-keepers of Brabant rear the Buckwheat near their hives. The plant yields a good quantity of spirit, and is much used in the manufacture of cordials and liqueurs by the distillers in some parts of Germany. The leaves and stems are eaten by cattle, sheep, and horses.

7. *P. Convólvulus* (Climbing Buckwheat).—*Leaves* heart-shaped and arrow-shaped; *stem* twining, angular; *segments of the perianth* bluntly keeled, rarely winged; *fruit* marked with lines, with rough points; *root* annual. This is a frequent and very troublesome plant of the cornfield. Its long stems wind round the stalks of the wheat or other plant, so twisting together the stalks and foliage into one mass, as to prevent further growth, or to bear all down by the weight. Besides this injury, it occupies a large portion of the soil which the agriculturist has prepared at a great cost and labour for the nutriment of the grain, and it sows a prolific crop for

the next spring weeding. Its flowers appear in July and August. They grow in axillary spikes, about four together, and are of a greenish white colour.

8. *P. dumetórum* (Copse Buckwheat).—*Leaves* heart-shaped and arrow-shaped; *stem* twining, marked with lines; *segments of the perianth* with a membranous wing; *fruit* quite smooth and shining on the surface; *root* annual. This is so nearly allied to the winged form of the last species, that it may probably be but a variety. It is, however, generally of a far more luxuriant habit, and has shining seeds. It grows among bushes in the south of England; but the authors of the "British Flora" remark, that it is seldom found above a year or two on the same spot.

** *Styles mostly* 2; *nut triangular or flattened.*

9. *P. amphíbium* (Amphibious Persicaria).—*Flowers* in a dense egg-shaped spike, with 2 styles and 6 stamens; *leaves* egg-shaped, or egg-shaped and lanceolate; or narrowly lanceolate, stalked, rough at the margins; *nut* smooth and shining; *stipules* membranous, narrow; *root* creeping and perennial. This is a very frequent and showy aquatic plant, growing sometimes in ditches or pools, or on their moist boggy margins. It assumes such different forms, according to its place of growth, that its varieties might be taken for distinct species. In one variety, growing in the water, and called *aquáticum*, the leaves are broad and floating, and the spikes oblong; while in the variety called *terréstre* the stems are about a foot high, and the leaves narrow and rough.

Both forms of the plant bear very handsome flowers, more like those of our garden Persicaria (*P. Orientále*) than those of any other of our wild species. The blossoms appear from July to September; and the more luxuriant form of the plant has stems two or three feet long, which are supported in the water by their long, stalked, floating leaves.

This plant is often very troublesome to those who attempt the draining of moist lands. Its stems run along the soft soil at the bottom of the water, sending out roots at every joint, and they require the attention of the drainer for two or three years; for, if suffered to remain undisturbed for a single season, the alluvial earth will be overrun by the Persicaria. Mr. Loudon, who remarks that no plant, except the Horsetail, is more troublesome on drained lands, says, that many tracts in Scotland, which have been recovered from rivers and estuaries for an unknown series of years, still abound with this plant; and, as under such circumstances it never advances so far as to produce flower or seed, the individuals must be the same which were formerly suspended in the water. It is quite the prettiest of our wild species of Polygonum. The French call it *Le Persicaire*; the Germans *Flöhkraut;* the Dutch, *Persenkruid;* the Italians and Spaniards, *Persicaria;* and the Russians, *Potschednaja trawa.* According to Coste and Willemet, the roots in their properties resemble sarsaparilla, and are by the herbalists of Nancy substituted for that drug. These authors add that the apothecaries and druggists of Lorraine prefer them to the true sarsaparilla.



1. SLENDER HEADED PERSICARIA. Polygonum laxum
2. TALL FLOWERED P. P lapathifolium
3. LAX FLOWERED P. P
4. SMALL CREEPING P. P minus
5. BITING P. P hydropiper

10. *P. Persicária* (Spotted Persicaria).—*Flowers* in compact, egg-shaped, oblong, cylindrical, erect spikes, with 2—3 styles, and 6 stamens; *flower-stalks* nearly smooth; *leaves* lanceolate, nearly sessile, smooth, except in a hoary variety, sometimes described as *P. incánum*; *perianth* glandular; *nut* flattened and swollen at one side, scarcely covered by the perianth; *stipules* loose, strongly fringed; *root* annual and fibrous. This plant is very common in moist hedges, and on lands on which moisture has stood. Its leaves are rather large and of a deep green, having usually a dark, blackish, or purplish spot about the middle. This mark is believed by the Highlanders to have originated in a drop of blood which fell from the cross at the time of the crucifixion, and which is supposed to have since been perpetuated on every leaf of the plant. This species bears in July and August numerous spikes of greenish or pinkish white colour, on a stem about one or two feet high. This plant often occurs as a weed in damp gardens.

11. *P. láxum* (Slender-headed Persicaria).—*Flowers* usually in elongated slender spikes, with 2 *styles* and 6 *stamens*; *flower-stalks* and *perianths* glandular and rough; *leaves* lanceolate, slightly waved, tapering at both ends, glandular beneath; *stipules* lax, shortly fringed, floral ones with an awl-shaped point on one side; *root* annual. This species occurs on damp gravelly places in several parts of England. Its stem is often prostrate, and its spikes are usually slender and interrupted, but sometimes short and continuous, with leaves white and woolly beneath. The flowers appear in July and August.

12. *P. lapathifólium* (Pale-flowered Persicaria).—*Flowers* in dense, oblong, cylindrical spikes; *flower-stalks* and *perianth* glandular and rough; *nut* flattened, smooth, shining, concave on both sides; *leaves* shortly stalked, egg-shaped, and lanceolate; lower *stipules* not fringed, upper ones shortly fringed; *root* annual. The Pale-flowered Persicaria is common in waste places and damp fields, bearing its pale whitish or reddish green flowers in July and August. The stem is a foot or a foot and a half high, and is sometimes spotted. This is a very variable species, its leaves being often smooth, but in some specimens white with short silky down. The spikes are lateral or terminal, and the blossoms very crowded.

13. *P. míte* (Lax-flowered Persicaria).—*Spikes* erect, thread-like, and interrupted; *leaves* lanceolate, slightly wavy; *stipules* hairy and fringed; *perianth* without glands; *nut* large, compressed, swollen on one side, wrinkled, shining; *root* annual. This species has lax flowering spikes, which are thicker at the upper than at the lower part, and are red in colour. The stem is from one to three feet high, and often much branched. It is not a frequent species, but occurs in several places near London.

14. *P. mínus* (Small Creeping Persicaria).—*Spikes* erect, thread-like, slender, lax; *perianths* without glands; *nut* small, compressed, smooth, and shining; *leaves* linear-lanceolate, flat, very shortly stalked, fringed, without glands; *root* annual. This plant occurs on wet gravelly commons about London, and in some other parts of England, and very rarely in Scotland. It is nearly allied to the next species, but is much smaller, and

generally prostrate and rooting at the base, though in some specimens it is erect. In the latter case it has narrower leaves than in the ordinary form. It has upright spikes, and its leaves are always more slender than in the Biting Persicaria.

15. *P. Hydrópiper* (Biting Persicaria).—*Flowers* in loose drooping spikes, rarely erect; *perianth* glandular; *nut* large, compressed, opaque and dotted; *leaves* lanceolate, waved; *root* annual. This is an abundant plant in ditches, and on spots where water has once stood. Its drooping, slender spikes of flowers expand during August and September, and are of a pale, reddish green colour; sometimes, as they grow older, rising erect. The juice of this plant is hot and acrid, but not unpleasant to the taste, and is used by country people to cure pimples on the tongue; it, however, raises blisters on a delicate skin. The plant was formerly held in great repute, both in this and other countries, for its medicinal properties, but it is rarely used now except by village doctresses, by whom the leaves are sometimes powdered and laid upon the skin, to remove the blackness caused by bruises. A stimulant plaister made of the plant is also applied instead of a mustard poultice; and country people use the leaves as a cure for tooth-ache. The Eastern Persicaria of our gardens is said by Tournefort to have been cultivated in Asia for similar purposes. The acridity of our native plant renders it disagreeable to all our domestic animals, and it is said to prove so obnoxious to insects, that if gathered while in full bloom and laid in wardrobes, it will preserve clothing from the attacks of moths; while, in Germany,

it is commonly placed in houses to prevent the annoyance of fleas. Bulliard mentions that the seeds have in country places in France been used as a substitute for pepper. The plant loses much of its acrimony in drying. It will dye wool of a good yellow colour.

Most of our species of Polygonum thrive in damp soils; and Sir T. L. Murray remarks of *P. junceum*, so common in Australia, that he found it an infallible guide to the vicinity of a river, when growing, as it commonly does, in large belts on the grassy plains. Dr. Joseph Hooker, too, when in the Himalayan mountains, remarks the abundance of another species on the flats by the river side. *P. cymósum*, which is a common plant in these regions, affords in its leaves an excellent substitute for spinach. The natives call it *Pullop-bi*; and this traveller records that he has reason to remember its name with gratitude, for he and his party subsisted for five days almost wholly on this plant, though they added to their diet a few nettles, and a small quantity of Sikkim meal.

2. Rúmex (Dock and Sorrel).

* *Plants not acid; flowers perfect.*

1. *R. Hydrolápathum* (Great Water Dock).—Enlarged *sepals* egg-shaped triangular, entire, each with a tubercle; *leaves* lanceolate, acute, tapering below; *footstalks* flat, but not margined above; *root* perennial. This is the largest of all our numerous species of Dock, being commonly three and sometimes even five feet in height. It is a handsome plant; its large leaves frequently serve the



1 GREAT WATER DOCK,
Rumex hydrolapathum

2 CURLED D.
R. crispus

3 MEADOW D
R. pratensis

4 GRAINLESS WATER D
R. aquaticus

artist as an embellishment to his picture; and it would, when luxuriant, attract the notice even of the least observant, the leaves being often more than a foot long. The plant is very common on river-banks and in ditches, and has several stems, which in July and August, bear numerous almost leafless whorls of green flowers, the enlarged sepals having prominent veins and large tubercles. Its root is large and very astringent, and a decoction is made from it, and used for washing the mouth.

2. *R. crispus* (Curled Dock).—Enlarged *sepals* broadly heart-shaped, entire, or having small round notches, one only with a perfect, large, coloured tubercle; *leaves* lanceolate, waved, acute; *upper whorls* leafless; *root* perennial. This is one of the several species of Dock which grow in waste places, in fields, and by road sides, and it is especially common near dwellings. The stem is two or three feet high, and the wavy leaves are narrowed at the lower part, and crisped at the edges. Its whorls are very numerous and crowded, and the tubercle is orange-coloured. Mr. Babington observes, that in some cases all the sepals are tubercled. Of the root, which is spindle-shaped and yellow, a decoction is sometimes made; or its juice, made into an ointment, is applied by country people in the cure of cutaneous affections.

3. *R. pratensis* (Meadow Dock).—Enlarged *sepals*, unequal, heart-shaped, dilated and toothed at the base; *leaves* oblong-lanceolate, waved; *clusters* nearly leafless, whorls distinct; *root* perennial. Many botanists describe this species as having one of the enlarged sepals principally tuberculated; but Mr. Babington observes that sometimes all three are equally tubercled. This plant

grows on marshy places, but is rare. It bears, in June and July, numerous leafless whorls near to each other, but not crowded.

4. *R. aquáticus* (Grainless Water Dock).—Enlarged *sepals*, broadly heart-shaped, membranaceous, entire, or wavy, without tubercles; *leaves* lanceolate, lower ones somewhat heart-shaped, crisped, and waved; *leaf-stalks* flat and margined above; *whorls* crowded, mostly leafless; *root* perennial. This species, which is the *R. domésticus* of some writers, is a tall dock, having its stems three or four feet high. It flowers in July and August, its crowded whorls forming a dense panicle of reddish flowers. It is not uncommon in the north of England and Scotland on moist lands, especially such as are occasionally inundated.

5. *R. alpínus* (Alpine or Monk's Rhubarb).—Enlarged *sepals* broadly heart-shaped, entire, or waved, membranaceous, without tubercles; *leaves* roundish, heart-shaped, blunt, with channeled footstalks; *upper leaves* egg-shaped; *whorls* leafless, crowded; *root* perennial. This is not a common, and in all probability not an indigenous plant. As its familiar name would indicate, it was cultivated in the physic-garden of the monastery, and it is near the remains of those old buildings that it is now chiefly to be found. Its root was formerly employed medicinally instead of the true rhubarb, and its properties are similar to those of that root, but are less powerful. It has large leaves, sometimes half a foot broad, very blunt, wrinkled, and netted with veins; and its crowded leafless whorls of reddish flowers appear in July.



1 ALPINE DOCK
Rumex alpinus

2 RED VEINED DOCK
Rumex sanguineus

3 SHARP DOCK
Rumex conglomeratus

Other species of Dock share in the medicinal qualities of the Monk's Rhubarb, but none of the species seem to possess very active properties. The celebrated Patience Dock of the Monastery garden was a native of Italy, and it has been remarked that it apparently received its name from some witty person who had observed how long a time it was ere it cured the malady for which it was prescribed. And, indeed, patience seems to have been a virtue particularly necessary, both to the sufferer and the physician, in the days when vegetable decoctions and compounds were the only medicines employed.

6. *R. sanguíneus* (Bloody-veined and Green-veined Dock).—Enlarged *sepals* narrowly oblong, blunt, entire, one at least bearing a tubercle; *leaves* egg-shaped and lanceolate, lower ones somewhat heart-shaped; *whorls* distant, on long leafless branches; *root* perennial. In one variety of this plant the leaves are veined with bright red, but this is rare; in the more common form the leaves have green veins. The latter plant is not unfrequent in woods or beneath the shadow of trees, in the meadow, or on the hedge-bank. This and some other species were formerly cultivated in this country for food, and in France are still dressed as spinach, and when mixed with sorrel the leaves form a very pleasant dish. One of our old writers remarks, "All docks being boiled with meat make it boil the sooner;" and he adds of this species, which he calls Blood-wort, that it is "exceeding strengthening to the liver, and procures good blood, being as wholesome a pot-herb as any growing in a garden; yet such is the nicety of our time, forsooth! that women will not put it in a pot because it makes the

pottage black: Pride and ignorance, a couple of monsters in the Creation, preferring nicety before health!"

7. *R. conglomerátus* (Sharp Dock).—Enlarged *sepals* linear-oblong, blunt, entire, or obscurely toothed at the base, each having a large tubercle; *leaves* oblong, pointed, lower ones heart-shaped or rounded at the base; *whorls* distant, leafy; *root* perennial. This plant is very similar to the green-leaved variety of the last species, differing chiefly in its leafy whorls, and in having a tubercle on each of its enlarged sepals. It has spreading branches, and bears its reddish green flowers from June to August, growing commonly in wet marshy lands. The root is used by dyers, and gives a great variety of tints, from a delicate straw-colour to a fine olive; while to cloth previously dipped in blue dye, it imparts a rich green.

8. *R. púlcher* (Fiddle Dock).—Enlarged *sepals* triangular-egg-shaped, netted with raised veins, deeply toothed at the base, one principally tubercled; *branches* spreading; *whorls* mostly leafy; lower *leaves* fiddle-shaped or oblong, and heart-shaped, blunt; upper ones lanceolate, acute; *stem* spreading; *root* perennial. This is a species with straggling prostrate stems, bearing distant whorls of greenish flowers from June to August. It is readily distinguished by the fiddle-shaped leaves.

9. *R. obtusifólius* (Broad-leaved Dock).—Enlarged *sepals* egg-shaped or oblong-triangular, blunt, toothed at the base, one principally tubercled; lower *leaves* egg-shaped, and heart-shaped, blunt; upper ones oblong or lanceolate; *stem* roughish; *root* perennial. This, which is one of our most common docks, is one of the most troublesome weeds with which the farmer has to contend. It



[illegible] Dock
Rumex pulch[illegible]
[illegible] BROAD LEAVED D[illegible]
R obtusifolius.

[illegible] GOLDEN [illegible]
[illegible] R maritimus
[illegible] YELLOW MARSH [illegible]
R palustris

grows in pastures, by way-sides, in yards and neglected gardens, mostly preferring cultivated soils. It may be known by its broad, blunt root-leaves, which are generally curled at the margin, and from July to September it bears rather distant whorls of reddish flowers, of which the lower ones are somewhat leafy. The stem is somewhat rough, and two or three feet in height. It is refused by cattle, but Dr. Withering remarks that it is eaten by fallow-deer with such avidity that it is rare to see a dock growing in a deer-park. The leaves are often used for wrapping round butter and cream-cheese, hence in some country places the plant has the name of Butter Dock. Most of us have applied it, when pained by the sting of a nettle. Mr. Couch, while remarking on the superstitions of Cornwall, says, "Boys when stung by the nettle have great faith in the antidotal properties of the Dock, and when rubbing it into the part in pain repeat the words, 'Out nettle, in dock; nettle, nettle stung me.'" Nor is the superstition confined to Cornwall, for the author, during childhood, when stung by the nettle in the fields of Kent, was wont to exorcise it in the words, "Out nettle, in dock." The expressed juice of the honeysuckle leaf is, however, a far more efficacious remedy against the sting either of plant or insect than the dock-leaf, the sole virtue of which seems to consist in its coolness. It was this latter quality which induced our forefathers to use it to allay the irritation of a wound. Thus in Browne's Pastorals we find—

——— "And softly 'gan it bind
With dock-leaves and a slip of willow-rind."

The root of this dock is very astringent. It was for-

merly used by dyers, and when powdered it forms one of the very best of dentifrices. The species sheds a profusion of seeds, and as these ripen rapidly and perfectly, the earth would soon be overrun by the Dock were it not that they are too heavy to be wafted to a distance by the wind. When the plant has established itself, however, it is most difficult of eradication, for almost every seed springs up near the parent root; and if but a small portion of the root is left by the weeder in the soil, it will generate buds and send them to the surface. Even if the root be cut to pieces by the plough or spade, each little piece, however far down in the soil it may be, pushes up its green leaf in the next spring. The seeds, too, often become mingled with those of the grasses, and when sown on good land an abundant crop of docks comes up in the meadow. It is remarkable, however, of the Dock, that it never flourishes in poor soils; and Dr. Keith gives, in his "General View of the Agriculture of Aberdeenshire," an anecdote relating to this peculiarity:— A person who took a small farm in that county, and entered upon it at the usual time of Whitsunday, observed that there was not a single dock on his land. Any one knowing the troublesome nature of this weed might have supposed that this was a source of congratulation. The farmer, however, better knew the nature of land and its weeds, and nine months after he had entered on his farm he called on the proprietor to inform him of his intention of quitting it. Ths landlord inquired the reason of this decision, as the tenant had as yet had no opportunity of seeing what crop he could raise in his fields. "Sir," observed the farmer, "there was not a dockan

on it on Whitsunday; I brought dockans from different places and have planted them, but they have not answered at all, and I know that what will not grow dockans cannot grow corn." Dr. Keith adds that this self-taught botanist was perfectly right in his conclusion that the farm was a bad one.

In the north of England the foliage of this Broad-leaved Dock is boiled as food for pigs. A species of Aphis (*A. Rúmicis*) infests this herb to a great degree, and it has recently been observed to be communicated by the Dock to some other plants. Many acres of the turnip crops in some parts of Yorkshire were, a year or two since, destroyed by this insect. It is hatched on the dock-leaf, and thence migrates to beans, peas, thistles, laburnums, furze and broom. Until lately, this migration to the turnips was unknown to naturalists: the only species regarded as destructive to that vegetable being the *Aphis Brassicæ*, and the *Aphis floris Rapæ*. It is remarkable that the Dock aphis should, in the summer of 1854, have been found to infest also, in myriads, the Dahlia buds in the neighbourhood of London, causing serious loss to the cultivators of these flowers.

10. *R. marítimus* (Golden Dock).—Enlarged *sepals* narrow, deltoid, acute, each with a lanceolate entire point, a prominent narrow oblong tubercle, and upon each side two bristly teeth; *whorls* much crowded, leafy; *leaves* all linear lanceolate; *root* perennial. This dock is, during July and August, a very conspicuous plant in some salt marshes, and it sometimes grows also in moist inland soils. Its narrow leaves distinguish it at all times, and when the bright orange-coloured flowers

appear on the tall stem, it is seen well to deserve its name of Golden Dock. The blossoms are very numerous, and grow in leafy crowded whorls.

11. *R. palústris* (Yellow Marsh Dock).—Enlarged *sepals* lanceolate, rather acute, each with 2 or 3 bristly teeth, and a narrow oblong tubercle; *flowers* in distant whorls; *leaves* linear-lanceolate; *root* perennial. This is a rare species, inhabiting inland, marshy soils. It is very similar to the last, but differs in the form and number of its enlarged sepals, and the teeth which border them, as well as in having a much larger nut. The root leaves are rounded or slightly winged below.

* * *Plants acid; stamens and pistils on different plants.*

12. *R. Acetósa* (Common Sorrel).—Outer *sepals* turning backwards; enlarged ones roundish, heart-shaped, entire, membranous, with a very minute tubercle at the base; *leaves* oblong, arrow-shaped; *root* perennial. Every child knows the Common Sorrel, which from May to August reddens many a meadow, its tint harmonizing well with the bright verdure of the grass. The stem, which is one or two feet high, is of a reddish tinge, and the large petals or sepals are at first bright red, and afterwards of a purplish colour. The rich green, smooth leaves have a pleasant acid flavour, which is much more powerful at the flowering season of the plant. Many of the leaves remain on the sunny slopes of meadows, sea cliffs, and other places, even during winter, but they have at that time little or no acidity. In autumn, the foliage has much redness. This plant and an allied species, *R. scutatus*, the French garden


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sorrel, have long been cultivated as salad herbs; and fish-sauce, and various dishes, as sorrel soup, are very commonly made in Continental countries from these plants. In former times, both this and the sharper acid wood-sorrel, as well as vine-leaves, unripe grapes, and crab apples, were much used in making verjuice; for the cook in the olden times used verjuice in the preparation of numerous dishes. The milkmaid in Isaac Walton's "Angler" tells her guests, "If you come this way a-fishing two months hence, a grace of God, I'll give you a syllabub of new verjuice in a new made hay-cock; and my Maudlin shall sing you one of her best ballads." Then, too, the juice of the Sorrel was often expressed and used medicinally, and doubtless would prove a good fever drink. It is recommended by all the old herbalists in "hot diseases," and deemed efficacious also in agues, jaundice, and pestilential maladies, as well as to quench thirst and renew appetite in weak digestions. It is decidedly antiscorbutic in its properties. It grows in the Arctic regions; and Dr. Sutherland, in his Journal of a Voyage to Baffin's Bay in the years 1850 and 1851, mentions the growth of this Sorrel on the cold shores which they had to reach by walking over the ice. As the voyagers approached the beach, they delighted in the beautiful yellow poppies which grew among its stones, throwing a charm over the spot. "If the traveller," says Dr. Sutherland, "wished to amuse his palate, he might feed *ad libitum* upon the leaves of cruciferous plants in full bloom, on Sorrel and Scurvy-grass. Of these plants, especially the former, I believe persons labouring under scorbutus ought to

obtain a sufficient quantity to effect a beneficial change in the disease. It often occurred to me, that the resources of the climate, in the way of plants, might be made available to prevent scurvy. Although a basket-full could not be obtained in one or even two hours by one person, handfuls could; and this operation extended over several hours, by an increased number of men, might go far to appease the insatiable craving for vegetable food." In some parts of Sweden, where barley and rye can scarcely be raised, the poor are often kept from starvation by eating bark-bread, and a bread which they described to Dr. E. D. Clarke as made of grass. This traveller found on examination that this grass was our Common Sorrel, and adds, that the bread made from it was far more salutary than that made from the fir-bark. The root of this Sorrel yields a good red dye.

The French Garden Sorrel (*R. scutatus*) is found in waste places near Edinburgh, and elsewhere, but is merely an escape from a garden, and cannot be considered as naturalised in this kingdom. Some much larger species of Sorrel are found in warm countries. Dr. Burchell, when in South Africa, saw a climbing Sorrel (*R. Acetósa scándens*), apparently very nearly allied to our Common Sorrel, which, by the help of neighbouring shrubs, mounted up to the height of fifteen feet.

13. *R. Acetosélla* (Sheep's Sorrel).—*Sepals* ascending, inner ones scarcely enlarged, egg-shaped, without tubercles; *lower leaves* lanceolate and halberd-shaped, with entire lobes; *root* perennial. This little Sorrel grows commonly on dry heaths and downs. It is

always a smaller and more slender plant than the last species, and is rarely a foot high. It is, however, very variable both in size and in the form of its leaves. On some plants, the root-leaves alone are halberd-shaped, on others the stem leaves also are of this form; the other leaves are stalked and lanceolate. It bears its small red flowers from May to August, and at the end of summer its foliage is much tinged with red. Wherever this Sorrel is abundant, it indicates a dry, barren soil.

3. Oxýria (Mountain Sorrel).

1. *O. renifórmis* (Kidney-shaped Mountain Sorrel).—*Stems* naked, or with one leaf; *root leaves* kidney-shaped; *root* perennial. This is truly a mountain plant, growing at great elevations near waterfalls and rivulets; and it is very common on the wet mossy rocks in such places. It is in appearance somewhat like our Common Sorrel, and possesses a similar acidity, but is a much shorter and stouter plant, and its root-leaves, which are kidney-shaped and fleshy, grow on long stalks. The flowers grow, from June to August, in clustered spikes, and are of a greenish colour. The stems are from eight to ten inches high, and are usually leafless.

Order LXXII. THYMELEÆ.—DAPHNE TRIBE.

Perianth tubular, often coloured, 4- rarely 5-cleft, occasionally having scales in its mouth; *stamens* 8, 4, or 2, inserted in the tube of the perianth; *ovary* 1-celled,

style 1 : *stigma* undivided ; *fruit* a 1-seeded nut or drupe. The Order consists of shrubs with undivided leaves, and remarkably tough and caustic bark. In some cases the berries are poisonous.

1. Da'phne (Mezereon and Spurge Laurel).—*Perianth* single, often coloured, 4-cleft ; *stamens* 8 ; *fruit* a berry. Named from the Nymph Daphne, who was changed into a Laurel ; many of the species having laurel-like leaves.

1. Daphne (Mezereon and Spurge Laurel).

1. *D. Mezéreum* (Common Mezereon).—*Flowers* lateral and sessile, mostly in threes ; *tube* hairy ; *segments* egg-shaped and acute ; *leaves* lanceolate ; *root* perennial. The Mezereon is a small shrub found, though rarely, in English woods, as in some of Sussex, Suffolk, and Hampshire. In some places, doubtless, it is either the outcast of the neighbouring garden, or was borne thence into the wood by birds ; but it is thought by the authors of the "British Flora" to be probably wild in Hampshire. We are all familiar with it, however, as a garden shrub, for its bright purplish or occasionally white fragrant flowers are welcome there in February and March, when the crocuses and snowdrops are almost its sole companions. The leaves begin to appear about the time at which the flowers are fully expanded, and they are of a most delicate green tint, while in autumn the bright red berries cluster in numbers among the foliage, the hue of which has gradually deepened to a full green. It is a bushy shrub, about two or three feet high, and


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it grows well beneath the shade of trees. It is found in all European countries, and is a very common plant in the woods of Germany, where it overshadows the bright blue hepaticas, which in spring gleam from among the fallen leaves of winter. It does not seem to have been known to our earliest writers as a British plant, for Turner does not mention it; but Gerarde says of it, "This plant groweth naturally in the moyst and shadowie woods of most of the East countries, especially about Elbing, which we call Meluin in Polande, from whence I have had great plentie thereof for my garden, where they flower, flourish, and bring forth fruit to maturitie." He says of it that it is called Dutch Mezereon, but that he would rather call it *Chamelæa Germanica*. He also gives it the name of Spurge Flaxe, or Dwarffe Bay. Parkinson, who calls it Flowering Spurge, says that this species grows wild in Germany, but that the Spurge Laurel grows wild in England; and the best botanist of early days, John Ray, never discovered it among our wild plants. The Germans call the plant *Gemeiner Seidelbast*, or *Kellerbalz;* the Italians term it *Laureola femina*, *Biondella*, or *Camelia;* and the French, besides its common name of *Laureole femelle*, give it that also of *Bois gentil*, *Mézéreon*, and *Bois joli*. The name of Mezereon seems to be from its Persian name of *Madzaryoun*.

Mr. Baxter says of the Mezereon, that we might be astonished by the wonders contained in the buds of this plant, as not only the flowers, but even their parts of fructification, may be seen a year before they unfold. The roots of the plant are large and very acrid, and

have long been a popular remedy for tooth-ache; but they should never be used in a fresh state, as they are likely to produce considerable inflammation in the mouth. The bark, which is also powerfully acrid, is frequently applied in France to raise a blister on the skin, and the plant is extensively used in medicine on the Continent. In Germany large quantities of this bark are in spring stripped from the branches, and being folded in small bundles, are dried for use; its taste is at first sweet, but its acrimony is soon perceptible. The berries are highly poisonous, and are employed in Sweden to destroy wolves and foxes. Linnæus records a case in which a dose of these berries proved fatal to a man; and Dr. Thornton mentions that his sister died in childhood from having swallowed a small number of them. Gerarde says, "If a drunkard doe eat one graine or berrie of it he cannot be allowed to drinke at that time, such will be the heate of his mouth and choking in the throte." If children taste these berries accidentally, oil, fresh butter, or milk should immediately be given. In Dauphiny, as well as in Siberia, these fruits are, however, of a less noxious character than in our climate; and they are commonly used medicinally, thirty berries forming a dose. In Siberia, where they are called Wild Pepper, they are given to children in hooping-cough. The Russian ladies are said to rub their cheeks with the fruits of the Mezereon, to heighten their colour by a slight irritation. A decoction of the plant is mingled with other ingredients in the Lisbon diet drink, and this decoction is considered alterative and similar to sarsaparilla. The robin feeds eagerly on Mezereon berries, and they

are also much relished by the finches, and other birds. Several foreign species of Daphne have a most tenacious bark, and from the bark of one of them, *D. Bholua*, a fine soft paper is manufactured. Dr. Joseph Hooker says that the books in the convent of Yangma, in Nepal, were of the usual Tibetan form, an oblong square, and that they consisted of several leaves of paper made of the bark of a Daphne, bound together by silk cords, and placed between ornamental wooden boards. The vegetable lace of Jamaica is the inner bark of *Lagétta linteária*, a plant very nearly allied to the Daphne; the lace looks like the product of art, forming a silky web. A frill, cravat, and ruffles were made of this material for Charles II. Several species of Daphne are found in our gardens, and one which is not unfrequent there, the Neapolitan Mezereon, is an evergreen, and grows on the hills and open places of some parts of Italy as freely as the furze grows on our moorlands.

2. *D. Lauréola* (Common Spurge Laurel).—*Leaves* lanceolate, narrowing at the base, evergreen, thick, and glossy; *flowers* each with a bract short, in axillary drooping clusters, which are shorter than the leaves; *root* perennial. This evergreen plant is very common in the woods of England, but is rare, and, perhaps, not truly wild in Scotland. It has a stout stem, from one to three feet high, with scarcely any leaves at the lower part, but bearing at the summit of its stem and branches tufts of bright glossy laurel-like leaves, which, however, soon twist and turn brown if too much exposed to the sun. The flowers hang from January to May among the leaves, looking as if cut out of pale green

wax, and being about five in a cluster. The berries are oval, at first green, but becoming black when ripe; and they are believed to be poisonous to all animals except birds. The plant thrives best among trees, and is often grown in shrubberies. Its properties are similar to those of the Mezereon, and it is used for similar purposes, but both plants are so acrid that persons employed in pounding them often suffer considerable inconvenience from the irritation caused by the particles rising from them. A stimulating ointment made of this species is commonly used in villages in this and other countries. The name of Spurge Laurel is not inappropriate to this Daphne, as it somewhat resembles our wood Spurge. The French call it *Lauréole male*, or *Lauréole des Anglais;* the Germans term it *Immergrüner Seidelbast;* and the Italians, *Laureola maschio.*

Order LXXIII. SANTALACEÆ.—SANDAL-WOOD TRIBE.

Perianth attached to the ovary, 4- or 5-cleft, valvate when in bud; *stamens* 3—5, opposite the lobes of the perianth; *ovary* 1-celled; *style* 1; *stigma* often lobed; *fruit* a hard dry drupe. This Order receives its name from the Sandal-wood of the East (*Santalum album*), and trees, shrubs, and herbaceous plants are included in it. The only British genus contained in it is the small Bastard Toad-flax.

1. Thésium (Bastard Toad-flax).—*Perianth* 4—5 cleft, not falling off; *stamens* with a small bundle of hairs at their base; *drupe* crowned with the perianth. Name of doubtful origin.

1. Thésium (Bastard Toad-flax).

1. *T. linophýllum* (Lint-leaved Bastard Toad-flax).—*Stems* prostrate or ascending; *leaves* linear-lanceolate, 1-nerved; *clusters* leafy; *flower-stalks* with three bracts; *root* woody, perennial. This is a rare plant, inhabiting chalky and limestone hills,

> "Nor will the breast where Fancy glows
> Deem every flower a weed that blows
> Amid the desert plain."

It has many herbaceous, spreading, leafy stems, terminated in July by clusters of whitish green flowers, and its leaves are very narrow and pointed. It is a truly parasitic plant. The Thesium was said by Athenæus to be so called because it formed part of the garland presented by Theseus to Ariadne; but the Theseion of the ancients was undoubtedly a different genus from ours, which comprises only obscure and unattractive little plants. The French call the Bastard Toad-flax *Thésium;* the Germans, *Leinblatt;* the Dutch, *Vlaschbald;* the Russians, *Linossisty tési.* M. de Candolle terms this species *T. humifúsum.*

2. *T. húmile* (Erect Bastard Toad-flax).—*Stems* erect, branched from the base; *leaves* linear, 1-nerved, fleshy; *flowers* in spiked racemes, sessile with three bracts; *fruit*

four or five times as long as the perianth; *root* perennial. Two specimens of this plant were gathered in 1829, near Dawlish in Devonshire, but it is not considered an indigenous plant.

Order LXXIV. ARISTOLOCHIEÆ.—BIRTHWORT TRIBE.

Perianth attached to the ovary below, tubular above, with a wide mouth; *stamens* 6—10 or 12, inserted on the ovary; *ovary* 3—6-celled; *style* 1; *stigmas* rayed, as many as the cells of the ovary; *fruit* 3—6-celled, many-seeded. The Order consists of shrubs or herbaceous, often climbing plants, very abundant in the warmer parts of South America, but rare in other countries; they contain bitter, tonic, and stimulant properties.

1. Aristolóchia (Birthwort). — *Perianth* tubular, curved, swollen at the base, the mouth dilated on one side; *anthers* 6, inserted on the style; *stigma* 6-lobed; *capsule* 6-celled. Name originating in the supposed medicinal virtues of the plant.

2. Ásarum (Asarabacca)—*Perianth* bell-shaped, 3-cleft; *stamens* 12, inserted at the base of the style; *stigma* 6-lobed; *capsule* 6-celled. Name from the Greek *a*, not, and *seira*, a wreath, because it was excluded by the ancients from their garlands.

1. Aristolóchia (Birthwort).

1. *A. Clematítis* (Common Birthwort)—*Stem* erect, without branches; *leaves* heart-shaped, stalked, smooth

flowers upright; *lip* oblong, tapering; *root* creeping, and perennial. This plant, though not truly wild, seems so long since to have been established in some parts of the east and south of England, that it may be regarded as naturalised. It grows among ruins, and bears in May dull yellow flowers, growing several together. The corolla is swollen at the base, but contracted above, and expanding with an oblong lip with a short point. The swollen part of the flower is clothed, inside, with stiff hairs, pointing downwards, and the authors of the "British Flora" remark, "When the flower is expanded it is not uncommon for a little insect (*Tipula pennicornis*) to enter it, the stiff hairs preventing its egress, until it has brushed off the pollen from the anthers upon the stigma; the perianth then becomes withered, the hairs become flaccid, and the insect makes its escape." The young shoots of the plant are somewhat like a vine, whence the name of *Clematítis*, and the leaves are large and heart-shaped.

This Birthwort grows wild on the stony places of Languedoc and Provence, and its roots are used as a stomachic in many parts of Europe. They have a disagreeable odour, and would probably prove deleterious to animals, as some other kinds are said to do, the roots of *A. grandiflóra* proving fatal to swine, which sometimes tear them up and eat them. Several of the species are renowned in some countries of Europe for having an extraordinary influence over the serpent race; and the Serpentary (*A. serpentária*) is stated to be so offensive to these reptiles that they not only avoid the places where it grows, but even flee from the traveller who carries a piece of the plant in his hand. It is also

very generally believed that the Egyptian Snake-jugglers stupefy these animals by its means; and Jacquin asserts that a few drops introduced into the mouth of a serpent so intoxicate it that it becomes insensible, and suffers itself to be handled with impunity.

2. Ásarum (Asarabacca).

1. *A. Europæum* (Asarabacca). — *Leaves* kidney-shaped, blunt, stalked; *stem* very short; *segments of the perianth* short, and curving inwards; *root* perennial. This plant occurs in woods in the north of this kingdom, as in Lancashire, Westmoreland, and some other counties, but it is in all probability an introduced, and not a native species. It is a singular herb, bearing in May a solitary, rather large, drooping flower of a dull green hue, which is placed on a short tough stalk between two shining bright green leaves. The roots, which are aromatic, have been much used medicinally, and from its frequent use as a remedy from the effects of excessive drinking, the plant has acquired in France the name of *Cabaret*. The French call it also *L'Asaret;* the Germans, *Haselwurz;* the Dutch, *Mans-oor;* the Italians, *Asaro*. The leaves, when powdered, are used as snuff, and considered beneficial in head-ache. The acrid principle of the plant is regarded as similar to that of the *Arum*, and the roots have very powerful medicinal properties.


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Order LXXV. EMPETREÆ.—CROW-BERRY TRIBE.

Stamens and *pistils* on separate plants; *perianth* of several scales, arranged in 2 rows, the inner resembling petals; *stamens* 2—3, opposite to the scales of the outer row; *ovary* of 3, 6, or 9 cells, on a fleshy disk; *style* 1; *stigma* rayed; *fruit* fleshy, with bony cells; *seeds* 1 in each cell. The Order consists of low shrubs with heath-like leaves, without stipules, and with small flowers, chiefly inhabiting Europe and North America.

1. Empetrum (Crow-berry).—*Perianth* of 3 outer and 3 inner scales; *stamens* 3; *fruit* globose, with 6—9 seeds. Name from the Greek *en*, in, and *petros*, a stone, because it grows in stony places.

1. Empetrum (Crow-berry).

1. *E. nígrum* (Black Crow-berry, or Crake-berry).—*Stems* branched, and prostrate; *leaves* linear-oblong; *flowers* axillary towards the summit of the branches; *stigma* with 9 rays; *root* perennial. This is a small shrubby prostrate plant, very similar to a heath, with narrow oblong leaves, the margins of which are so rolled under that they almost meet beneath. The flowers expand from April to July, and grow in the axils of the upper leaves. They are small and of purplish colour, and are succeeded by the autumnal clusters of black berries. The Crow-berry, though unknown in the south of this kingdom, is very abundant in our northern mountainous districts, as well

as in the more northern countries of Europe. Its berries furnish a large store of food for the moor-fowl, and though they are acid, and to most people unpleasant in flavour, yet they are eaten in the Arctic regions, and considered a preventive to scurvy. The people of Siberia make an acid drink from these fruits, and, as well as the Kamtschatdales, use them in puddings. They are, besides, in the north of Europe generally used to dye cloth of a black colour, and to darken the tint of various kinds of furs. In our country, Crow-berries are eaten chiefly by children, but they should not be taken in large numbers. In the Orkneys very good ropes are made from the shoots of the plant. The shrub is sometimes called Black-berried Heath. The French call it *Camarine;* the Germans, *Rauchbeere;* and the Dutch, *Besheide.* Cattle appear to have no relish for the plant.

END OF VOL. IV.



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